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ABSTRACT

This final report describes the activities and accomplishments of a 3-year project in New York City on the formation and maintenance of social relationships and social networks of children and adolescents with deaf-blindness. Research activities attempted to: (1) identify patterns of social interaction and social networks across educational environments which had varying degrees of integration or inclusive programs; (2) monitor the development of social relationships across natural environments; (3) document effective interventions and supports which promoted social exchange between students with deaf-blindness and their peers; and (4) increase social opportunities within the schools and communities for children and adolescents with deaf-blindness and their families. Project activities focused on increasing awareness about the social and communication skills of students with deaf-blindness and promoting opportunities for social interaction at school, at home, and in the community. The project provided direct services to 10 students with deaf-blindness, their peers, families, and educators. The report describes the project's theoretical and conceptual framework, methods and procedures, interventions, general results, and dissemination. An appendix summarizes classroom techniques for working with these students. (Contains a bibliography of about 100 references.) (DB)

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Social Relationships of Children and Adolescents with Deaf-Blindness

Final Report

October 1, 1992 - December 31, 1995

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Table of Contents

		Page
I.	Theoretical and Conceptual Framework	1
	A. Introduction	1
	1. Social Competence in Peer Interaction	5
	2. The Support of Social Relationships	11
	3. Social Relationships and Deaf-Blindness: An Ecological Model for Research	16
	i. Table 1 Master Plan	22
	B. Objectives and Activities	35
II.	Methods and Procedures	53
	A. Participants	53
	1. The Students and Their Families	53
	2. School and Community Programs	54
	i. Table 2 Student Demographics	55
	B. Data Collection Procedures	57
	1. Collection of Background Information	57
	i. Table 3 Record Review Form	59
	ii. Table 4 Team Meeting/Observation Notes	66
	2. Observations	69
	i. Table 5 Social Interaction Observation Form	72
	ii. Table 6 Activity and Environmental Checklist	74
	iii. Table 7 Field Note Form	79
	3. Teacher Interviews	84
	i. Table 8 Teacher Interview on Social Opportunities	86
	ii. Table 9 School Peer Network	90
	iii. Table 10 Weekly Logs: School Activities Checklist	91
	4. Parent Interviews	93
	i. Table 11 Family Interview on Social Opportunities	96
	ii. Table 12 Parental Perceptions Interview	98
	iii. Table 13 Social Network Analysis	101
	iv. Table 14 Weekly Logs: Home Activities Checklist	104
	5. Friendship Surveys	105
	i. Table 15 Teachers' Perceptions of Friendship	108
	ii. Table 16 Parent Perceptions of Friendship	114
III.	Interventions	123
	A. Identification of Interventions and Procedures	123
	B. Forms of Intervention Activities	123
	1. Team Meetings	123
	2. Educator Support	124
	3. Parent Support	125

IV. General Results 125

A. Social Opportunities of Three Students 126
1. Results of Data Analysis 126
i. Table 17 Changes in Students' Social Opportunities, Activities, and Networks 127
2. Discussion 130
B. Parent Survey 132
1. Participants 133
2. Data Collection Analysis 133
3. Results of Survey 134
4. Discussion 136
C. Case Study 136
1. General Demographics and Background Information 137
2. Educational Program 139
3. Factors Related to Successful Outcomes 141
4. Challenges and Long Term Issues 147

V. Dissemination 149

A. Table 18 Seminars, Workshops, and Inservice Training Programs 150
B. Table 19 List of Products and Materials 156

Appendix

A. Notes for Educators Working With Students Who Are Deaf-Blind
B. Bibliography on Friendship, Social Interaction, and Children with Deaf-Blindness

Abstract

This project was specifically concerned with research on the formation and maintenance of social relationships and social networks of children and adolescents with deaf-blindness. The research activities attempted to: (a) identify patterns of social interaction and social networks across educational environments which had varying degrees of integration or inclusive programs; (b) monitor the development of social relationships across natural environments; (c) document effective interventions and supports which promoted social exchange between students with deaf-blindness and their peers; and, (d) increase social opportunities within the schools and communities for children and adolescents with deaf-blindness and their families. In addition, the project addressed issues regarding barriers and challenges in the development of relationships between children with deaf-blindness and their peers as well as the identification of specific strategies which served to increase social relationships. To this end, project activities included increasing awareness about the social and communication skills of students with deaf-blindness and promoting opportunities for social interaction at school, home, and in the community. The project provided direct service to ten students with deaf-blindness, their peers, families, and educators to increase social opportunities and social interactions.

Social Relationships of Children and Adolescents with Deaf-Blindness

FINAL REPORT

I. Theoretical and Conceptual Framework

A. Introduction

Over the past few years, an impressive and growing collection of educational research has focused on the social relationships of learners with disabilities. Beginning with a handful of studies that sought to train children who had problem behaviors to acquire positive interaction skills (e.g., O'Connor, 1969; Strain & Timm, 1974), this new "field" has now expanded into a diverse and extensive "data base of technologies" (Haring, 1991) for social development, representing many different theoretical orientations and constructs. Much of the existing literature concerns the development of social competence, focusing on how young children with or without disabilities learn appropriate interactive responses and become effective in influencing the social behaviors of their peers (Guralnick, 1992). However, advocacy for the social integration of individuals with severe disabilities also has come to the fore, bringing more applied investigations in which direct efforts have been made to enhance friendships and the social networks of children, adolescents, and adults (e.g., Haring, Breen, Pitts-Conway, Lee, & Gaylord-Ross, 1987; Krauss, Seltzer, & Goodman, 1992; Strully & Strully, 1985).

Despite these advances, there has been little research, basic or applied, on the social relationships of individuals with deaf-blindness. In fact, while social interaction skills have been frequently identified as educational priorities (Sisson, Van Hasselt, & Hersen, 1987), only on occasion have peer relationships and extended social interactions

between students with deaf-blindness and their schoolmates been specifically targeted as instructional areas (Downing & Eichinger, 1990; Meyer & Eichinger, 1987). Communication skills have been the dominant concern and attention has, thus, been devoted to describing, assessing, and improving the forms, modes, and functions of expressive behaviors that children with deaf-blindness exhibit (e.g., Rowland & Stremel-Campbell, 1987; Siegel-Causey & Downing, 1987).

The communication literature does imply that learners with deaf-blindness face a number of unique issues and challenges in developing and maintaining acquaintances, friendships, and social networks. For example, a considerable amount of research has shown that even the earliest infant-caregiver interactions may be different, shorter, or less frequent when infants have sensory disabilities (e.g., Appell, 1987). Such interactional differences, especially in eye gaze and early give-and-take behaviors, may subsequently lead to lasting and profound effects upon learners' awareness of the social impacts of their own behaviors, their ability to signify social interest by initiating behaviors or responding to those of others, and the ability of partners to interpret and respond to potentially communicative acts (Siegel-Causey & Downing, 1987). Dual sensory impairments can also reduce the learner's awareness of social events that occur beyond an immediate physical proximity, and so limit one's engagement in interaction and ability to respond to social cues and signals. Understanding the context of social events, even when the learner is directly involved in interaction, can be significantly compromised by sensory impairments (Skellenger, Hill, & Hill, 1992). In addition, attitudinal barriers of peers or adults, as well as the individual's own emotional or behavioral difficulties may similarly contribute to and limit the number of opportunities in which meaningful social interaction occurs. Often times, the student who is deaf-blind lacks appropriate social skills and engages in seemingly "bizarre" behaviors, such as hand-flapping or rocking, which may unwittingly push peers away. Over time, the cumulative effect may be the exclusion of the individual from the many informal social exchanges and routines upon which

friendships and social networks are built and reinforced. Further, the receptive communication modalities of students with deaf-blindness often require that potential communication partners learn very specific forms of expression (e.g., touch cues, tactile signs), which may be a deterrent to spontaneous interaction.

The greatest challenge, however, to the development of social relationships of learners with deaf-blindness may be their limited opportunities to fully participate in the natural activities of schoolmates and neighbors. The integration of students with deaf-blindness into community-based programs and public schools has proceeded slowly (e.g., Fredericks & Baldwin, 1987), and only recently have the educational needs of these students in integrated environments been addressed (Downing & Eichinger, 1990; Meyer & Eichinger, 1987). The uniqueness and severity of deaf-blindness have inhibited, either in deliberate or inadvertent ways, opportunities for these students to participate in the typical activities of learning and leisure and, consequently, from routine social interactions and social relationships. In facilitating the social involvement and participation of students with deaf-blindness, consideration must be given to the numerous adaptations and services required by students with deaf-blindness, including brailled materials, tactile sign interpreters, auditory trainers, and other technological aides (e.g., Goetz, 1995). Even as students with other severe disabilities participate in greater numbers in integrated or inclusive educational and social programs, students with deaf-blindness generally continue to be educated in segregated, self-contained environments (Downing & Eichinger, 1990).

Because of the limitations that dual sensory impairments impose on receptive and expressive communication, as well as on the opportunities for varied social experiences, students with deaf-blindness are particularly vulnerable to being avoided, socially isolated, misunderstood, regarded as unskilled (Mar, 1993). These perceptions and social responses can directly contribute to poor outcomes even when social interactive opportunities exist. The failure to provide consistent and effective supports to promote

social integration can lead to the greater dependence of an individual with deaf-blindness on families or care providers and, over a life course, an increasingly less likelihood of social and vocational achievement. The process of change, however, must be one of mutual accommodation (Bronfenbrenner, 1989). That is, strategies and interventions to enhance social relationships must target not only an individual's social competencies, but the responsiveness of the social environment for such support. The constructs of interaction and relationship are defined by dynamic processes between two individuals, both of whom are the active participants and, therefore, equally affected by changes of social opportunity.

The research to be reviewed here pertains to the social needs of children and adolescents with deaf-blindness. These needs include, in particular, the acquisition of social skills, opportunities for social interaction, inclusion in social events, acquaintances and peerships with students and members of the community who are not disabled, and meaningful friendships. In an effort to gain an understanding of the factors, supports, environments, and strategies that facilitate social relationships of these individuals, two major areas of research are reviewed. First, studies on peer interactions and social competence are described. This observational research examines the patterns of interaction between learners with and without disabilities, and describes the nature of learners' social delays and needs. Attention is given to peer relationships involving children who have sensory impairments or severe disabilities. Research on the efficacy of interventions to facilitate social interactions is reviewed. For present purposes, social interactions refer to the situational, episodic contacts between two or more individuals. These interactions are the bases upon which social relationships may be built. The most common forms of intervention to promote interactions involve either the direct instruction of social skills, or the use of peers as mediators, tutors, or initiators of social interaction. Second, studies are described which focus on increasing the social integration and social networks of individuals with severe disabilities. Interventions to

promote their social relationships are designed to effect changes and adaptations at more systemic than dyadic levels, and include support of social networks, teacher-mediated interventions such as cooperative learning, environment or context enhancement, and program development strategies. Social relationships imply ongoing, dynamic associations between individuals. This review concludes by delineating several research questions pertaining to the social relationships of children and adolescents with deaf-blindness, as presented in the context of an ecological research model.

1. Social Competence in Peer Interactions

Research on social competence has focused on the direct social interactions and play behaviors of children with disabilities and their nondisabled peers. Investigators have been concerned primarily with the development and acquisition of peer-related social skills and, as such, most of these studies involve very young children with mild disabilities or developmental delays in integrated early intervention programs. These studies have generally reported that the communication and social behaviors of children with mild disabilities are qualitatively different from those of their peers. Children with developmental delays or disabilities tend to engage in fewer social interactions and less mature social behaviors (Odom, McConnell, & McEvoy, 1992); have more disagreements during their interactions (Guralnick & Groom, 1989); are likely to be less occupied in cooperative and constructive play (Guralnick, 1981); spend more time alone or engaged in regressive behavior (Kopp, Baker, & Brown, 1992); and have greater difficulty entering the activities of peer groups, being selected as dyad partners, and forming reciprocal friendships (Guralnick, 1990; Strain, 1984).

The social competence of children with visual impairments has been reviewed by Skellenger et al. (1992), who noted that these children initiate interactions with less frequency than their agemates, and have difficulty extending appropriate conversation

toward peers. Because they are unable to utilize the nonverbal or physical cues that support language, such as facial expressions or gestures, their social play and interaction tend to be less elaborate than that of sighted peers. Similarly, Kekelis and Sacks (1988) reported that children with visual impairments experience relative difficulties in social interaction, and are more likely to be rejected by peers. The interactions and play of children with hearing impairments also tend to be shorter in duration and less frequent than those of their nondisabled peers (Antia & Kreimeyer, 1992).

Kopp et al. (1992) have pointed out that for children and adolescents with severe disabilities, the concept of social competence has considerably different meaning. Patterns of social interaction are expected to differ markedly for these students and, hence, the issues of concern and the critical interventions to enhance their peer relationships are also different. The presence of certain basic social-communication skills cannot be assumed to have been acquired by students with severe disabilities or those who have deaf-blindness. Social initiation, reciprocation, social problem solving, and cooperative play may exist in such basic forms that interventions must be directed toward assisting the learner extend these skills, rather than gain competency per se. Further, for students with severe disabilities who attend segregated or partially integrated educational programs, opportunities for momentary social exchanges and the longer-term development of social relationships are substantially reduced such that interventions to increase peer relationships or to generalize learned social skills are seriously compromised (Meyer, McQuarter, & Kishi, 1984; Odom & Strain, 1984). Relatedly, peers without disabilities under these circumstances may be less familiar with the social and communication behaviors of students with severe disabilities, and so continue to have minimal direct interactions.

Various strategies have been utilized to enhance the social interaction behaviors, or person-to-person skills, of students with severe disabilities. Some are more "student-centered", focusing on the direct teaching of social and communication skills and

behaviors. These strategies are closely related to applied behavior analysis, in which the objective is to reinforce the learner for appropriate communication or prosocial behaviors (e.g., Carr & Durand, 1985). Most efforts, however, have involved the use of socially competent peers as mediators, instructors, confederates, initiators, or supporters during social interactions and cooperative play (e.g., Gaylord-Ross & Haring, 1987; Kohler, Strain, Maretsky, & DeCesare, 1990). Generally speaking, the objectives of these interventions have been to increase the level, quality, or frequency of interactive behaviors by directing instruction to dyads or peer groups involving students with and without severe disabilities.

Social Skill Instruction. Evolving out of behavioral psychology, the direct instruction of communication and social skills to individuals with severe disabilities represents a form of intervention more "monadic" than dyadic in orientation (Shores, 1987). That is, intervention packages are directed at the individual with severe disabilities to promote or reinforce the learning of specific social behaviors or skills, such as greeting others, initiating interaction, responding to others' social behaviors, or learning socially acceptable forms of communication. The goal of training is to teach the individual to generalize these learned skills across social situations. These methods have been shown to be particularly effective with children and adolescents who have autism, severe behavioral problems, or are socially withdrawn (e.g., Gaylord-Ross, Haring, Breen, & Pitts-Conway, 1984; Strain & Timm, 1974). A fairly recent approach, generally referred to as functional communication training (e.g., Carr & Durand, 1985; Durand, Crimmins, Caulfield, & Taylor, 1989), is included among these methods. The problem behaviors of a learner are evaluated in terms of their motivational functions. When such behaviors are identified as serving communication needs, i.e., expressing desires or making requests, interventions are designed to help the individual acquire alternate forms of expression that serve the same functions.

Haring (1991) has described several advantages of the direct teaching of social skills. He argued that such training leads to increased levels of social behavior within natural contexts, compared to baseline levels. Students with severe disabilities gain more control over social situations by learning to initiate interactions, as opposed to passively waiting for peer initiations. Further, students learn to become less dependent on nondisabled peers to engage in interaction. In this respect, Gaylord-Ross et al. (1984) demonstrated that teaching students with autism to approach others and share or present objects and activities of interest (e.g., playing a hand-held video game) led to more extended interactions with nondisabled peers. However, the power of having peers assume more active roles in the social skills training has been increasingly recognized (Shores, 1987), and the greater emphasis on educational integration and inclusion in recent years have favored an approach in which learners without disabilities receive support for interacting with learners who are disabled, and vice versa.

Peer-Mediated Interventions. Peer-mediated interventions have met with considerable success and promise for increasing the frequency of interactive behaviors by students with severe disabilities, as well as their maintenance over extended periods of time. Knapczyk (1989), for instance, described a brief mentor training program in which children in general education programs were assigned to include three students with mental retardation in their play groups, and to assist them perform tasks and activities by demonstrating, modelling, or guiding appropriate behaviors. The degree of cooperative play was assessed during baseline, training, and follow-up periods. Results indicated that the general cooperative play of the three students not only increased after training, but stayed at high levels for three months beyond the training period. Brady, Shores, McEvoy, Ellis, and Fox (1987) investigated the effects of a peer-initiation training procedures used with two school-age students with autism and severe disabilities. In their approach, multiple peer trainers learned to interact with the two students through group discussions and practice. Trainers learned strategies to initiate interactions by

sharing materials, organizing activities, or assisting the learners. Interactions initiated by the two students during the baseline, training, and follow-up periods were coded. The number of initiations and extended interactions between the students with disabilities and their peers, including those who were not involved in training, remained at high levels in the subsequent 11-day period of observations. Haring et al. (1987) instituted a program of training involving adolescent students with severe disabilities, including one student with deaf-blindness. High school students in regular education programs were assigned to a "peer tutor" group or "special friends" group. Peer tutors received direct instruction from special educators on assisting students with disabilities to perform tasks in classrooms using task-analysis methods. Special friends spent several hours per week engaged in various activities with the students (e.g., leisure activities, lunch, free periods). Members of both peer groups had more positive scores on a measure of attitudes toward students with disabilities than members of a control group. In addition, the interactions of peer tutors and special friends with the students who had disabilities were significantly and substantially longer, compared with the interactions between control group members and students with disabilities. Numerous other studies of peer-mediated interactions have produced similar results (e.g., Kohler et al., 1990; Lefebvre & Strain, 1989).

Clearly, one of the major positive outcomes from peer-mediated interventions are the effects upon the attitudes and perceptions of nondisabled students about students with disabilities. Several studies, including those described above, have provided strong evidence that even moderate integration efforts can foster increased awareness and attitude changes. Sasso and Rude (1988) assessed the social effects of a peer-initiation program on children without disabilities. Students in regular first-, second-, or third-grade classes who were high or low in social status according to indices of popularity, were involved in a peer-initiation program in which they received a brief awareness session on severe disability conditions, and were then paired with students of the same age who had such disabilities. The pairs were engaged in interaction during daily recess

periods for seven weeks. Results indicated that children who were "low" in status gained popularity as a result of their participation with students who had severe disabilities. The authors suggested that peer-initiation programs could directly benefit students without, as well as with, disabilities. Relatedly, Peck, Donaldson, and Pezzoli (1990) investigated the perceptions of high school students in regard to their perceived benefits from their social relationships with peers who had severe disabilities. Interviews were conducted of 21 high school students on various aspects of social relationships (e.g., difference in relationships between students with and without disabilities, value, difficulties, etc.). Nondisabled students reported benefits in terms of improved self-concept, social-cognitive development, tolerance for and less fear of human differences, and enjoyment of accepting friendships. Although the authors acknowledged the anecdotal nature of this research, they discussed possible benefits that students in regular education programs can derive from integrated school experiences.

Studies of peer-mediated interventions have generally involved the structuring or manipulation of dyads or peer groups. Proximity alone, or the placement of students with and without disabilities in the same physical environments, appears to be insufficient to promote meaningful social exchanges (Gaylord-Ross, Stremel-Campbell, & Storey, 1986). However, while the theory and technology of peer-mediated interventions has advanced greatly (e.g., Guralnick, 1992), relatively little is known about social and educational contexts that may be especially conducive to the more natural formation of social relationships, or of the intrinsically motivating factors that might serve to sustain and enhance these relationships over time (cf. Haring, 1991). Multi-context, observational research studies have yet to be conducted in which the very long-term patterns of interaction are explored.

2. The Support of Social Relationships

Social relationships and the development and long-term maintenance of friendships are clearly identified as major concerns in the inclusive education literature (Strully & Strully, 1989; Vandercook, York, & Forest, 1989). Although the immediate benefits of social relationships and integrated education have been well articulated by Haring (1991), the impact of social integration on the establishment of social networks is also seen as a crucial factor contributing to the quality of one's future relationships (Giangreco, & Putnam, 1991).

The establishment of social relationships and friendships has evolved as a priority among both families and educators. In a study of parents' priorities in the education of their children with disabilities, Hamre-Nietupski, Nietupski, and Strathe (1992) reported that parents of children with moderate disabilities considered the development of functional skills to be most critical. In contrast, parents of children with severe disabilities considered the establishment of social relationships and friendships to be the educational concerns of priority. Many schools and communities have been responsive in developing programs to facilitate and support the nurturance of social relationships. Few, as yet, have been analyzed for their long-term effects, the qualities of relationships that are established between students with and without disabilities, or the extents to which such programs promote systemic changes within schools and communities.

In contrast to the dyadic interventions used to promote the quality and frequency of direct social interactions between individuals, or the training of social skills to increase a student's repertoire of communication behaviors, interventions to enhance the development of social relationships have emphasized the structuring of environments, the use of instructional activities designed to foster cooperation and interaction, the adaptation of service delivery models to merge goals and activities of regular and special education programs, and the development of extensive social and educational support

systems. In such efforts, multiple interventions may be used simultaneously, and the totality of their effects are generally monitored as a whole. Outcomes are often defined in terms of students' successful inclusion or participation in integrated environments.

Support Networks. Support networks refer to the teams or heterogeneous support groups which actively promote the development and maintenance of sustained relationships. Two of the more well-known examples of such programmatic efforts are MAPS (Making Action Plan Systems or McGill Action Planning System) and "Circle of Friends" (Forest & Lusthaus, 1989). Both programs provide a process for building and enhancing relationships between individuals with severe disabilities and peers or colleagues without disabilities. Peers, family members, educators, neighbors, and others involved in the student's school and community contribute to the development of short- and long-term social goals. These persons generate strategies and activities to achieve these goals, and assume various supportive roles and responsibilities to accomplish them. A similar program is the "supported friendships program" (Breen & Lovinger, 1989), in which regular-education students are invited to participate in activities with students who have severe disabilities. The common theme to these interventions is to bring together individuals with have varying learning styles and needs to support those with disabilities.

Haring (1991) and others have noted the sparseness of research to validate models and programs designed to directly support the development of social relationships. However, several anecdotal reports have been offered to describe the successful outcomes of supported relationships and networks. Forest (1987), for example, described the process of building friendships and supports for one high-school student with severe disabilities, who was also assisted by a facilitator. Forest reported that within a period of six months, the student was fully integrated into a regular high school program. Strully and Strully (1985) have discussed the importance of restructuring service delivery models so that individuals with disabilities can receive instruction within the regular school

classroom. Efforts to provide adequate resources in each classroom contributed to the development of long-term quality friendships for the student, their daughter.

Teacher-Mediated Interventions. Teacher-mediated interventions, as used presently, refers to a loosely defined set of strategies and interventions in which educators assume mediating or instructional roles to create increased interactive opportunities. These interventions can be implemented to promote direct interaction between students, structure environments that may facilitate shared experiences, or arrange schedules and opportunities across school settings (e.g., cafeteria, classes, computer rooms) in which social exchange is more natural. Structures provided by educators can be relatively simple, such as providing guidance to students with and without disabilities in natural interactions, or quite sophisticated, as in the cooperative learning models that have recently gained attention.

The essence of cooperative learning lies in establishing positive interdependence between students (Johnson, Johnson, & Holubec, 1986). In many of such programs, students are divided into small groups, assigned particular roles and tasks, and are responsible for fulfilling their own duties as well as assisting other group members to complete an assigned task. Roles assigned to students with severe disabilities may be integral to the assigned task, and their interactions with peers are, thus, functional and critical to task accomplishment. Interdependence of materials and goals, two components of cooperative learning groups, set the stage for increased opportunities for interaction between students. Giangreco and Putnam (1991) delineate several positive social outcomes from cooperative learning situations for students with severe disabilities and without disabilities, alike. These include increased orientation to group members, more prosocial relations and interactions, increased helpfulness to others, higher levels of verbal interaction, and increased student achievement.

A study by Putnam, Rynders, Johnson, and Johnson (1989) demonstrated the positive effects of a cooperative learning model involving students with disabilities in

regular fifth-grade science classes. Students either received or did not receive collaborative skill instruction for performing their tasks. Skill instruction was associated with more positive interactions among group members. Jenkins, Speltz, and Odom (1989) compared integrated and segregated students with disabilities on a number of characteristics including language and social competence. They reported that children in integrated programs who had also participated in teacher-mediated social interaction activities, as opposed to child-directed play, subsequently received significantly higher ratings of social competence based upon observations.

Several other forms of teacher-supported and teacher-mediated interventions have been found to be effective in promoting positive social relationships among children with and without disabilities. These may include prompting, praising, and reinforcing students for engaging in reciprocal play, initiating, or sharing materials with a peer (McEvoy, Odom, & McConnell, 1992). McEvoy et al. (1990) described a study in which specific teaching procedures were implemented to promote social interaction among students with disabilities in general education settings. Three intervention procedures were used, including modification of peer attitudes, classroom organization and materials, and teacher-provided reinforcement to students for engaging in social interaction. Students with and without disabilities who were involved in the peer training and reinforcement procedures, versus reinforcement only procedures, tended to engage in higher levels of social interaction and participation in activities.

Environmental Strategies. Environmental or "contextual enhancement" interventions (Haring, 1991) are generally designed to support increased interactions within physical environments. They are typically used in addition to other forms of more supportive or interactive interventions, such as peer-mediated or teacher-mediated strategies, and include optimizing the physical and organizational components of the classroom environment. In studies reviewed by McEvoy, et al. (1990), selecting and organizing materials in the classroom environment, such as utilizing social versus isolate

play materials for free time activities, increased the social interactions of students with and without disabilities. Research indicates that integrated settings, in general, may provide greater opportunities for social interaction and serve as more productive environments for increasing peer involvement. In another study of social interaction in special and regular preschools (Odom, Peterson, McConnell, & Ostrosky, 1990), the amount of time children engaged in interactive behaviors was greater during play activities than during preacademic activities; the regular education curriculum allocated nearly twice as much time for "play" activities than did the special education curriculum. It is important to recognize that in a regular school environment, social opportunities can be missed or hampered if the physical design of the classroom and school fails to address accessibility issues. Creating a barrier-free environment is essential to the potential participation of students with disabilities in all aspects of school life (Grenot-Scheyer, Coots, & Falvey, 1989).

Teacher-Support Strategies. Finally, teacher-support strategies refer to measures designed to support the instructional activities of special and regular educators in the classroom, teacher assistants, and related-service providers. Support can assume a variety of forms, including consultation on the use of resources to deliver educational services, the provision of inservice education programs, the assessment or identification of individualized social needs, and consultation on the implementation of specific strategies. The use of consultant teacher models and team teaching represent examples of teacher support. Few studies have evaluated the efficacy of teacher-support strategies on long-term programmatic changes or of changes in individual's communication and social behaviors.

However, Thousand, Nevin-Parta, & Fox (1987) conducted an inservice training project that resulted in significant changes in service delivery and at the levels of students. They provided training and support to regular and special educators over a two-year period in which administrative issues, collaboration between special and regular

education teachers, and competencies for implementing best practices were emphasized. Over the course of the inservice period, 65 students with moderate and severe disabilities were integrated into local schools. Further, surveys of parents and school staff members indicated that one of the strongest positive outcomes was the increase in the development of social relationships among students with and without disabilities.

3. Social Relationships and Deaf-Blindness: An Ecological Model for Research

The studies reviewed above describe a wide range of intervention procedures that effect changes in the social experiences of students with disabilities at several levels, including individual social and communication behaviors, interactions between learners, social relationships and networks, and availability of social supports. Although many of the earlier studies are based upon applied behavior analysis models of research, there have been great advances in the development of theoretical frameworks for social research, which accommodate the sophistication of research technologies and the complexity of the effects that social interventions may have across persons, environments, and situations. Consequently, many social and educational researchers have adopted ecological research models, also referred to as environmental, contextual, or ecobehavioral models. Bronfenbrenner (1989) has been a main proponent of ecological systems theory, describing the ecology of human development as the "scientific study of the progressive, mutual accommodation, throughout the life course, between an active, growing human being, and the changing properties of the immediate settings in which the developing person lives, as this process is affected by the relations between these settings, and by the larger contexts in which the settings are embedded" (p. 188). In Bronfenbrenner's view, development and growth are joint functions of persons and environments. The developmental outcomes (or behaviors) observed at any one point are products of the interactions between persons and environments that take place over time

and can change over time. The ecological model represents a clear departure from traditional models of social science research in which independent variables (e.g., intervention program) are manipulated, dependent variables (e.g., changes in individual or group behavior) are observed and measured, and any effects of change or difference are attributed to the manipulation of the independent variable. In the traditional research model, efforts are made to minimize the influence of extraneous factors, including human subject factors, that may "confound" the effects of the independent variable. In contrast, the ecological model recognizes that growth and development are outcomes of the interplay between characteristics of the environment (including interventions) and the person, with the processes and nature of this joint function changing over time.

Bronfenbrenner has referred to a particular ecological paradigm incorporating these elements as a chronosystem model. Changes can occur not only in the person as a result of environmental factors (e.g., increased social behaviors), but the environment can change (e.g., increased social opportunities) or differ across contexts (e.g., performing familiar vs. unfamiliar routines). Further, the dynamic nature of these relationships evolve over time such that as an individual grows older, environmental and contextual characteristics differ or change, which will impact upon the individual, and such that changes within the individual will impact upon the social environment.

Research on social relationships must necessarily be guided by a model which: (1) recognizes dynamic changes in the nature of those relationships over time, and as affected by opportunities, events, situations, contexts, and supports. Because the critical concern is the formation, nurturance, and maintenance of ongoing relations, studies devoted to understanding the social process of the development of relationships must use a design which permits one to examine cumulative effects of experience and growth on both an individual and the social environment. Cross-sectional research models, which involve individuals from different age or experience groups (e.g., younger vs. older children), may examine an individual's behaviors as functions of environmental and

contextual variations (e.g., child-directed vs. teacher-directed interventions in integrated vs. segregated classrooms), but ignore how these variations might affect the individual's development over time; (2) defines as the "subjects" of research not only the traditionally targeted individual or group (e.g., children with disabilities) but, equally so, the social and communication partners (peers, educators, community members, family members, acquaintances) whose behaviors, on the one hand, impact upon the environmental climate and, on the other hand, are also influenced by situational and temporal factors; and, (3) distinguishes social behavior, such as observable communicative and interactive exchanges at fixed points in time, from social relationship, which represents an ongoing bond or affinity between two persons that is accrued and maintained, in part, through interactive experiences.

Haring (1991) made special note that social skills research involving students with severe disabilities has been concerned mostly with the training of dyadic skills, with little reference to context. Social interactions can contribute to the formation of social relationships, but do not necessarily result in relationships. The study of social relationships, then, must include and go beyond the analysis of social interactions and entails a long-term "chronosystem" program of study.

Although little social research has focused on individuals with deaf-blindness, there are several implications from studies of social interaction and relationships involving children and adolescents with severe disabilities: (1) It is likely that many students with deaf-blindness lack the opportunities to engage in meaningful social relationships, which have been primary concerns voiced by family members and educators alike; (2) Peers, educators, and acquaintances may, themselves, require interventions to promote their awareness and understanding of the social and communication behaviors of, and interactive opportunities provided by, students with deaf-blindness; (3) Specific interventions to increase social exchanges between students with deaf-blindness and nondisabled peers will be required even in integrated

environments; (4) Social interaction and communication skills of students with deaf-blindness may best be enhanced, maintained, and generalized through natural opportunities for interaction in integrated school and community environments; and, (5) Programmatic supports in both communities and schools, and neither alone, are likely to be required to help form and nurture ongoing social relationships of students with deaf-blindness.

Given these concerns, this project delineated a program of applied research on the social interaction behaviors and social relationships of children and adolescents with deaf-blindness. The research adhered to a theoretical framework that is ecological in orientation (Bronfenbrenner, 1979; 1989) in which observations of learners' social interactions and analyses of their social relationships were frequently made across community and school contexts and environments over the course of three years. The research sought to describe social interactive and communication behaviors of children and adolescents with deaf-blindness, and the development and evolution of their behaviors and social relationship networks as functions of the mutual processes of change within individuals and their social environments over time. Throughout the course of involvement with each individual student, interventions were designed and implemented to promote specific social and communication skills, interactive behaviors of social partners (e.g., peers, community members), social interaction opportunities, the formation and maintenance of social relationships, and the expansion of social networks, such that each of these concerns is integral to successful social integration. Specific research questions and issues included the following:

- How are individuals' social interaction and communication behaviors affected by varying contextual factors and environmental characteristics? Specifically, how do patterns of interaction and the development and maintenance of social relationships change or differ over time in

educational and community programs that are integrated or inclusive to varying degrees? How do they change or differ as a function of familiar or unfamiliar settings and activities? How do qualities of social and communication behaviors (e.g., initiation, turn-taking skills, social attention and interest, expressive forms) of students with deaf-blindness change across context and time? Are the changes in social and communication skills that result from effective interventions generalized to other settings?

- What specific intervention strategies are effective in promoting increased dyadic exchanges between learners with disabilities and their peers? Do intervention strategies which promote increased social exchanges lead to increased social relationships over time? How do the attitudes, perceptions, and interactive behaviors of peers and acquaintances change over time as functions of these interventions? What supports do peers who are not disabled require to increase their social interactions and relationships with students who have deaf-blindness?

- What instructional strategies, educational team processes, and systems-level supports are effective for creating environments that best promote natural social interactions and relationships between students with deaf-blindness and peers in their schools? How do environments that are educationally integrated to varying degrees affect the social climate of the learner with deaf-blindness (e.g., age-appropriate activities and conversation, number of opportunities that the learner provides for interaction, opportunities to which educators and peers respond)? How do

changes within educational systems affect patterns and opportunities for social exchange?

- What community supports facilitate acquaintances, the formation of friendships, the quality and maintenance of social relationships, and the expansion of social networks for students with deaf-blindness? What strategies are effective for promoting consistency and continuity of social goals and interventions carried out between community, home, and school? How are perceptions of community members about individuals with deaf-blindness and severe disabilities influenced by increased social contact?

- How do interventions and supports to facilitate social interactions and social relationships directly affect learners with deaf-blindness and their families in terms of intra-familial interactions, the achievement of family goals, social access to activities in their communities, and increased social networks of the families?

- What are the unique issues and concerns regarding the development and maintenance of social relationships for students with deaf-blindness of different ages? Of boys in comparison to girls? With different degrees or types of disability? With differing degrees of family or community support? How must interventions to promote social interaction and social relationships accommodate to these differences in order to be effective?

Table 1, the Master Plan, summarizes these research questions in relationship to specific levels of change, relevant interventions, and methods of data collection.

LEVEL OF CHANGE	CRITICAL ISSUES AND QUESTIONS	HYPOTHESES	RELEVANT INTERVENTIONS
I. Student social behaviors	1. Has student's general social competence changed over time?	1.1 Students will show change in social competence over time.	General participation in project
	2. Has student's interactive and communicative competence changed over time?	2.1 Students will display higher level and more extensive communication behaviors over time.	General participation in project
II. Awareness, attitudes, and perceptions.	3. How do attitudes and perceptions about: (a) the relevance and appropriateness of integrated and inclusive programs and experiences; (b) benefits of participating in integrated activities; and (c) the need to expand social opportunities for students change as a result of interventions?	3.1 General and special education personnel will show more favorable attitudes about the need for inclusive and integrated programs, and of their benefits to students with and without disabilities, as a function of teacher-support interventions.	Teacher Inservices; School-wide presentations; Direct teacher support to develop and implement integrated activities
		3.2 Over time, parents will show increasing belief that social relationships and opportunities for interaction are available and must be expanded for their children.	Individual and group parent meetings; Long-term parent involvement; Family involvement in community and general school activities
		3.3 Administrators will express increasing belief and interest in the importance of inclusive/integrated activities for students in general education milieus.	General participation in project Creations and demonstrations of successful programs/activities Periodic meetings/inservice
	4. What are the perceived barriers to increasing social opportunities and experiences for students and how do these perceptions change?	4.1 Barriers to the development of social opportunities and relationships will be initially attributed to "external" problems that are difficult to surmount (i.e., out of one's ability to influence), as perceived by administrators, family members, and	Creations and demonstrations of successful programs/activities Direct teacher and family support to develop/implement activities

LEVEL OF CHANGE	CRITICAL ISSUES AND QUESTIONS	HYPOTHESES	RELEVANT INTERVENTIONS
		teachers (e.g., school regulations, legal liability, poor physical access). Over time, these barriers will be increasingly seen as "internal" (i.e., within one's own ability to eliminate or reduce).	
	5. How are relationships and social interactions between deaf-blind students and peers perceived in terms of their quality, depth, potential, and mutuality? How do these perceptions differ when: (a) there is ongoing vs. limited opportunity for interaction; (b) student has mild vs. severe cognitive disability?; and (c) the student's primary communication mode, e.g., ASL, differs from peers and schoolmates?	5.1 Fewer differences in the quality of friendships involving deaf-blind, as opposed to nondisabled, students will be perceived by teachers and peers in the more integrated vs. segregated school environments.	General participation in project Development of integrated activities
		5.2 As social opportunities between deaf-blind and nondisabled students increase, fewer differences will be perceived by teachers and peers in the quality of social relationship that can be developed with a deaf-blind vs. a nondisabled student.	Development of integrated activities on a regular basis with the same teachers/peers General participation in project
		5.3 With increased social opportunities and peer-mediated interventions, perceived differences in the relationships that students with severe vs. mild cognitive disabilities, or with different modes of communication, can develop and enjoy will be reduced.	Development of integrated activities and peer mediation or peer training on social/communication behaviors to facilitate interaction
	6. To what degree is the development of social relationships involving deaf-blind students regarded as an educational goal or responsibility?	6.1 Parents, educators, and administrators will rate the development and maintenance of social relationships higher as an educational priority over time.	General participation in project

Table 1 continued

LEVEL OF CHANGE	CRITICAL ISSUES AND QUESTIONS	HYPOTHESES	RELEVANT INTERVENTIONS
III. Direct interactions (with peers, community members, etc.)	7. How does student's quality and pattern of social behaviors and communication change/differ as a function of segregated vs. integrated educational and social contexts?	7.1 In integrated activities, students will exhibit more: instances of self-initiated interaction; responses to others' initiations; total time spent in interaction; sustained social sequences.	Development of integrated activities to contrast student's behaviors in comparable segregated events
		7.2 Students will spend a greater proportion of time interacting with peers, as opposed to adults, in integrated free-time or similar activities during the schoolday.	Same as 7.1
		7.3 Students will exhibit higher degree of communicative competence in integrated settings and activities.	Same as 7.1
	8. Are student's interactive and communication behaviors similar across milieus (e.g., home, school, community)? What contextual factors are related to differences in the student's degree and quality of interaction in different settings?	8.1 For each student, notable differences in interactive and social behaviors will be observed in different settings. Such differences may include frequency of self-initiation, reciprocity of interaction, duration of interactive sequence, etc. Factors such as familiarity of setting, potential for inclusion, preferred activity, etc., will be related to these differences.	Variations in natural observation settings: familiar vs. unfamiliar, size of group, presence of acquaintances, type of activity, grouping strategy, etc.
	9. How effective are adult-mediated and peer-mediated interventions in promoting increased interactions, as well as the quality and appropriateness of interaction, between students during integrated activities?	9.1 Peers will express increasing interest in interacting with deaf-blind students in relation to increased social opportunities and peer-mediated support. This will be expressed through initiation bids and	Development of integrated activities in which same peers are involved in activity with student and in which other nondisabled peers are present

Table 1 continued

LEVEL OF CHANGE	CRITICAL ISSUES AND QUESTIONS	HYPOTHESES	RELEVANT INTERVENTIONS
		time spent with student relative to nondisabled peers.	
		9.2 Activities, materials, and topics of conversation in which the student is involved with peers will become more age and context appropriate with peer-mediated interventions. There will be a general shift from accommodation to the student's presumed level to assimilation within the general activity.	Inservice training to teachers/peers re: communication behaviors, selection and adaptation of activities and materials
		9.3 General and special educators will increasingly facilitate interaction between students and peers by using grouping and task participation strategies during integrated activities.	Inservice training on teaching in heterogeneous groupings, e.g. cooperative learning Informal assistance and classroom-based support
	10. How does increased familiarity between specific students affect their interaction over time?	10.1 Over time and opportunities, the qualities of interactions between deaf-blind students and nondisabled peers will change from being assistive to social, and from being peripheral to central.	Peer-mediated strategies to encourage involvement of student in activities
		10.2 Students will show greater interest in interaction with familiar peers over time and opportunities, as reflected by social relatedness, general affect, initiations, etc.	Same as 10.1 Development of integrated activities in which same peers are present

Table 1 continued

LEVEL OF CHANGE	CRITICAL ISSUES AND QUESTIONS	HYPOTHESES	RELEVANT INTERVENTIONS
		10.3 Greater proficiency in communication between students with alternative communication modes and their peers will be observed as reflected by length of sequences and quality of interaction between student and peer	Peer training on alternative and augmentative communication systems as used by the student Consistent opportunities for interaction with same peers
IV. Lifestyle and social network	11. Has student had an increase in the number and variety of social opportunities to interact with peers in the school and community?	11.1 There will be more opportunities for social interaction with peers in school and/or community.	Meetings, formal and informal, with teachers and parents to identify, pursue, create social opportunities
		11.2 These opportunities will promote the continuity in students' involvement in specific activities, and the consistency with which students engage in social activities involving same peers.	Same as 11.1 Development/promotion of students' continuous involvment in activities (e.g., Boy Scouts)
		11.3 The type, range, and appropriateness of social opportunities for students and peers will increase.	Combination of teacher supports, peer training, family supports
	12. Is student's social network expanded in terms of: (a) number of people; (b) "roles" of individuals in network; (c) duration of relationships; and (d) nature of relationships?	12.1 For all students, social networks will constantly evolve in terms of the number of people, their roles, duration of relationship, and quality.	General participation in project Combination of teacher, family, and peer supports to identify and promote potential relationships
	13. Have social networks of peers expanded or changed to include deaf-blind student?	13.1 Students' roles in the social networks of peers will evolve (e.g. from acquaintance to friend) as a result of having more integrated opportunities for interaction.	Development of integrated activities in which same peers are involved in activity with student over time

Table 1 continued

LEVEL OF CHANGE	CRITICAL ISSUES AND QUESTIONS	HYPOTHESES	RELEVANT INTERVENTIONS
	14. How does environmental and social context of the school influence the development of social networks?	14.1 Changes in social networks will be most dynamic for students in more integrated school settings.	General participation in project of students in integrated vs. self-contained programs
		14.2 Social networks of students attending schools within vs. outside their communities will include relationships with peers that are more consistent.	General participation in project of students in home vs. out-of-community schools
	15. What supports and interventions are effective in promoting social networks, given differences in family resources and community environments?	15.1 The same general outcomes of expanding social opportunities and networks will be achieved for all students, but the types of intervention strategies and/or forms of support will differ in relation to the available family/community resources.	Meetings with families to identify and use community resources, facilitate community outreach
	16. How can social networks be most effectively enhanced, given individual differences in students' communication, cognitive, and social skills?	16.1 Individual differences will influence the forms, content, and emphasis of intervention activities, but these supports will effectively promote social networks regardless of the extent of such differences.	General participation in project
V. Systems (teaming, community programs, school changes)	17. What changes have occurred in the social life of the family as a unit?	17.1 Families will increasingly seek, create, and make use of social opportunities available to them, leading to increases in social activities.	General participation in project Meetings and discussions with family members to identify and utilize community resources

Table 1 continued

LEVEL OF CHANGE	CRITICAL ISSUES AND QUESTIONS	HYPOTHESES	RELEVANT INTERVENTIONS
	18. What changes to promote social access have occurred within community organizations since the involvement of a deaf-blind student?	18.1 Community programs will facilitate participation of students with disabilities and their families as reflected by changes in policies and practices.	Provide support to community agencies (e.g., training, direct assistance, information) to promote student's involvement
	19. Has the school environment changed to reflect: (a) increased teamwork between general and special education teachers; and (b) administrative support for students' access to and integration within school-wide facilities and events?	19.1 There will be an increase in collaborative efforts between general and special education staff (e.g., increase in joint meetings, shared classrooms, more acquaintances, etc.).	Facilitate team meetings around specific students General inservices or school-wide meetings around collaboration Direct support to increase "teaming"
		19.2 There will be an increase or shift in administrative support for the development of programs leading to the integration of students with and without disabilities.	General participation in project Administrative support through staff workshops and meetings with administrators

Table 1 continued

Section II. Measures/Variables

HYP	INSTRUMENTS	DEPENDENT VARIABLE	GENERAL SUBJECTS	GENERAL METHOD OF DATA COLLECTION
1.1	(a) Assessment of Social Competence (b) Scales of Indep. Behavior	(a) Levels (1-8) and total scores (b) Cluster Scores	DB students	(a) Admin. to parent 1X per year (3 times) (b) Same as above
2.1	(a) A.S.C. (Communication) (b) S.I.B. (Communication)	(a) Levels (1-8) (b) Cluster score	DB students	(a) Same as above-- highlights communication behaviors (b) Same as above
3.1	(a) Social Opportunities Attitudes Scale with sections on barriers to inclusion; possibilities for friendships; benefits to deaf-blind and nondisabled students. (b) Structured interviews (teacher perception scale)	(a) Score on measure (Likert Scale) (b) Qualitative data	Teachers of DB students Paras for DB students General Ed. teachers directly involved with DB students General Ed. teachers in same schools but not directly involved with DB students	(a) Formal teacher/para interviews at beginning and end of school year (or project period if teachers are the same from one year to next), (b) Same as above, with unstructured interview data
3.2	(a) Same instrument as 3.1 (a) (b) Unstructured interviews	(a) Score on measure (b) Qualitative data	Parents of DB students	(a) Formal interview with parents 1X per year (b) Informal discussions and meetings with parents
3.3	(a) Needs Assessments (survey in workshop session) (b) Unstructured interviews	(a) Descriptions of needs (b) Other qualitative data	Special and general education administrators directly or indirectly involved in project	(a) Periodic administrator meetings and/or informal meetings with administrators approximately once per year for needs assessments and reviews (b) Informal interviews/discussions as opportunities develop
4.1	(a) Same instrument as 3.1 (a) (b) Unstructured interviews	(a) Score on measure (b) Qualitative data	Parents, Teachers of DB students Administrators General education teachers	(a) Same as 3.1(a), 3.2(a), 3.3(a) (b) Same as 3.1(b), 3.2(b), 3.3(b)
5.1	Quality of Relationships Scale and Questionnaire (peer and (teacher versions)	Score and responses on measure (Likert Scale)	Nondisabled peers Teachers of DB students Paras for DB students General Ed. teachers directly involved with DB students	Formal interviews with teachers, paras, peers-- 3X in total. Data to be collected simultaneously with administration of other interview measures, and embedded in administration of formal assessment tools.

Table 1 continued

HYP	INSTRUMENTS	DEPENDENT VARIABLE	GENERAL SUBJECTS	GENERAL METHOD OF DATA COLLECTION
5.2	Same instrument as 5.1	Score on measure	Nondisabled peers Teachers of DB students Paras for DB students General Ed. teachers directly involved with DB students	Same as 5.1
5.3	Same instrument as 5.1	Score on measure	Nondisabled peers Teachers of DB students Paras for DB students General Ed. teachers directly involved with DB students	Same as 5.1
6.1	Same instrument as 3.1	Ratings of priorities	Parents of DB students Teachers of DB students Special Education administrators	Same as 3.1, 3.2, 3.3 respectively
7.1	Social Interaction Scale (direct observation measure)	% of time in interaction # self-initiations # responses to others' bids average length of sequences	DB students with social opportunities in both integrated and segregated milieus	Structured observations 2X per month. Specific contrasts and conditions of observation to be specified in student data collection plans.
7.2	Same instrument as 7.1	relative % of time spent interacting with peers vs. teachers	DB students with social opportunities in both integrated and segregated milieus	Same as 7.1
7.3	(a) Same instrument as 7.1 (b) Communication Profile	(a) length of interactive sequence responses to social bids (b) Communication Profile levels with descriptive data	DB students with social opportunities in both integrated and segregated milieus	(a) Same as 7.1 (b) Use of Communication Profiles during periodic observations as specified in student data collection plans, once every 6 months in similar contexts

Table 1 continued

HYP	INSTRUMENTS	DEPENDENT VARIABLE	GENERAL SUBJECTS	GENERAL METHOD OF DATA COLLECTION
8.1	(a) Same instrument as 7.1 (b) Structured field notes, with specific prompts for information to describe details of context	(a) % of time in interaction # self-initiations # responses to others' bids average length of sequences % of time in activity (b) qualitative aspects of behavior	All DB students	(a) Same as 7.1 but specifying observations to include other milieus. Specific observations conditions to be determined per student. (b) Completion of information for structured field notes for each observation session
9.1	(a) Same instrument as 7.1 (b) Field notes	(a) # of initiations by peers amt. of time with DB student length of sequences with DB student (vs. others) (b) qualitative data	DB students and nondisabled peers in same setting	(a) Same as 7.1 in coordination with mediated interventions (b) Recording of general information about qualities of interaction and activities
9.2	(a) Observations/Field notes (b) Activities Rating Checklist (Likert scale to assess age appropriateness, degree of inclusion, materials, etc.)	(a) qualitative data on activities (b) ratings on checklist	DB students and nondisabled peers in same setting	(a) Two observers in field (if needed) during one observation per month. One observer as per 7.1. Other observer to collect field notes on qualitative aspects of activities. Schedule contingent on when mediation is conducted. (b) Activities Rating Checklist completed after first observation per month for a given student.
9.3	(a) Classroom Activity Logs weekly or for 1 week/month (b) Observations/Field notes of teachers' organization of integrated activities	(a) # of cooperative learning and similar integrated events relative to the total number of opportunities per week (b) qualitative data	Teachers of DB students General education teachers directly involved with DB students	(a) Teachers to complete Classroom Activity Logs once per month to cover a one-week period (second week per month). (b) Observations will follow schedule for 9.2
10.1	Same instrument as 7.1	% of assistive vs. social interactions Time spent in peripheral vs. central involvement	DB students and nondisabled peers in same setting	Same as 7.1

Table 1 continued

HYP	INSTRUMENTS	DEPENDENT VARIABLE	GENERAL SUBJECTS	GENERAL METHOD OF DATA COLLECTION
10.2	Same instrument as 7.1 with identification of peers in specific interactions	# of initiations by student to various peers total or % time spent with various peers	DB students and nondisabled peers in same setting--same peers over time	Same as 7.1
10.3	Same instrument as 7.1 with identification of peers in specific interactions and additional field notes on the length and qualities of communicative exchanges	length of interactive sequences between student and peer (consistency, frequency) qualities of the forms of communication between dyad members	DB students and nondisabled peers in same setting--same peers over time	Same method/observation periods as 7.1 and 9.2 (2 observers)
11.1	Activity Logs of events in school and out of school for a given week per month	# of social opportunities	All DB students	Parents and teachers to complete Student Activity Log once per month (last week of each month)
11.2	Same instrument as 11.1 with specification of peers, activity, location	# of opportunities-- same activity, same peers--during time period (e.g., 3 months)	All DB students	Same as 11.1
11.3	Same instrument as 11.1	# of different types of social opportunities	All DB students	Same as 11.1
12.1	(a) Analysis of Social Networks instrument (interview scale) (b) Same instrument as 11.1	(a) # of people role categories (friends, etc.) duration/consistency of relationship (b) qualitative analysis of persons involved in activities	All DB students	(a) Social network interview with parents to be conducted 2X per year, total of 4 to 6 times. (b) Activity Logs to be collected as per 11.1 for details

Table 1 continued

HYP	INSTRUMENTS	DEPENDENT VARIABLE	GENERAL SUBJECTS	GENERAL METHOD OF DATA COLLECTION
13.1	Brief interview on peers' friends and acquaintances (Likert)	ratings on Likert scale	Peers who have consistent contact with DB student	Peer responses re: their identification of friends and acquaintances to be collected at same time as 5.1 data
14.1	(a) Same instrument as 12.1 (b) Same instrument as 11.1	(a) same D.V. as 12.1(a) (b) same D.V. as 12.1(b)	DB students in integrated vs. segregated programs	(a) Same as 12.1(a) (b) Same as 12.1(b)
14.2	(a) Same instrument as 12.1 (b) Same instrument as 11.1	(a) same D.V. as 12.1(a) (b) same D.V. as 12.1(b)	DB students attending schools within vs. outside the community	(a) Same as 12.1(a) (b) Same as 12.1(b)
15.1	(a) Activity Logs (b) Analysis of Social Networks (c) Family/Community descriptions	(a) # of social opportunities range of social activities (b) same D.V. as 12.1(a) (c) qualitative data on family/ community characteristics and the nature and type of interventions	All DB students	(a) Same as 11.1 (b) Same as 12.1(a) (c) Descriptions to be compiled during home/community and school visits; ongoing records of interventions and supports to be maintained
16.1	Field notes about the forms, types, degree, nature of interventions and supports for each student	qualitative data on the types of interventions and supports	DB students with severe vs. mild disabilities; speech vs. nonspeech forms of communication	Ongoing records of interventions and supports in home, school, community
17.1	Activity Logs (subsection on family activities)	# and types of family social activities with DB student	Families of all DB students	Family Activity Logs to be completed by parents at same time that Student Activity Log is completed
18.1	(a) Structured/Unstructured interviews (b) Observations/field notes	(a) qualitative and quantitative analyses of responses (b) qualitative data on program changes	Representatives of community programs which involve or potentially involve DB students	Field notes and information from interviews will be compiled for analyses

Table 1 continued

HYP	INSTRUMENTS	DEPENDENT VARIABLE	GENERAL SUBJECTS	GENERAL METHOD OF DATA COLLECTION
19.1	Teacher/Staff Collaboration Logs	# collaborative events per week # team meetings per month # of general ed staff members in social contact with teachers of DB student # of times resources are shared	General and special education staffs (as a unit) Teachers of DB students	Data to be collected same time as data for 9.3(a)
19.2	Unstructured interviews	qualitative data on focus of inservice training, attitude toward students, relationship with inclusion staff, etc. # of joint meetings/activities in school involving general and special education	General and special education administrators directly or indirectly involved in project	Data to be collected at same as 3.3(a) and 3.3(b) as part of interviews/need assessments

Table 1 continued

B. Objectives and Activities

The major objectives and activities presented below were interrelated; no one objective or activity had significance out of the context of the others, nor could any objective be independently achieved. In essence, the design of this project was conceptualized as a continuum of long-term applied research, or an extended time-series study, as opposed to a series of individual studies. Over the three-year period, observations of social interactions of individuals with deaf-blindness were made continuously and frequently across contexts. Many of the specific activities described under each objective were conducted concurrently and continuously throughout the project period. Research questions were addressed by selecting and analyzing relevant data from the accumulated "data bases" of individuals. Various research instruments, measures, surveys, and forms were developed by this project for the purpose of data collection. Data collection instruments are presented in Section II of this report, part B, under Data Collection Procedures.

Objective 1. To conduct long-term observational research on the nature of social interaction skills and behaviors of students with deaf-blindness in integrated community and educational settings.

The specific activities under this objective involved frequent, extended, and systematic naturalistic observations of individual students with deaf-blindness in interaction with peers, family members, community members, educators, acquaintances, and others across a variety of contexts and milieus in the community, home, work setting, and/or school. These observations fulfilled many specific purposes of the project, including: (1) establishing baselines of individuals' social interaction skills, social

environments, social competence, and social networks across contexts; (2) identifying social and contextual factors related to differences in the communication and social interaction behaviors of each learner; (3) identifying the patterns of communication and interaction of persons who have varying degrees of familiarity with the learner; (4) determining how interactive opportunities and the qualities of interaction differ for individuals whose educational programs and home/community experiences are inclusive or integrated to varying degrees; (5) analyzing the effects of intervention strategies on social interaction behaviors of individuals with deaf-blindness and their peers; and (6) documenting long-term changes in social relationships of students with deaf-blindness and their peers as functions of natural opportunity, interventions, and support.

Activity 1.1. Design a protocol for methodically conducting and coding natural observations of individuals involved in the study. Formal and extensive observational, data collection, and data recording procedures were planned for each of the learners involved in this project. The protocol specified: the frequency of observations; the length of each observation period; the time and location (including after school and weekends); the social, physical, and situational contexts in which observations were made (e.g., in integrated classroom, during lunch, in the community, leisure time with peers); the methods of data collection (e.g., chronologs, field notes, recording procedures); and the coding systems for recording and analyzing social interaction and communication sequences. The protocol represents the process for collecting data that apply to all of the research and education issues of concern.

Activity 1.2. Establish a "data base" for each student. For each student identified for participation in this project, extensive data were accumulated and kept current throughout the project. The data base represents all of the cumulative observational information, background information, and social measures that were used to address the research questions and educational issues of concern, as described under Activities 1.3

through 1.11. Included in the data base were, for example, verbatim field notes, baseline information about social interaction behaviors across contexts, parent/family interview data, peer behaviors during interaction, social networks, communication profile, social intervention plans, etc. The data base were organized in computerized and written forms such that specific information could be easily retrieved, coded, and analyzed.

Activity 1.3. Conduct observations and descriptive analyses of individuals' communication and social interactive behaviors in relation to social, environmental, and temporal contexts. Observations represented the primary process for the collection of data about an individual's social interactions and social relationships. Each student was frequently observed over an extended period (two to three years) in a variety of school contexts, in accordance with the protocol (Activity 1.1). Observations were recorded with verbatim field notes (chronologs) in addition to time-sampling. As part of each observation, contextual information was documented (e.g., presence of peers, activity, location, familiarity of environment, school vs. community, etc.). Forms were developed by the project to help guide observers and ensure consistent documentation of specific information (see Tables 3 and 4 in Section II of this report).

Activity 1.4. Determine common themes and issues of the social interaction patterns of individual students with deaf-blindness that occur within and between contexts. Observations were used to identify common themes regarding a learner's social interaction, modes and dimensions of communication behaviors, interactive pattern and style, behavioral and social challenges, social preferences, etc. "Themes" refer to the various issues and concerns that emerge across social situations. Examples of themes include: a student's particular preference for interactive activities or communication partners; specific problem behaviors that directly interfere with social interaction; response tendency in new environments; situations in which the student is able or unable to communicate needs or interests. Such themes and issues served as an initial basis for intervention planning, as described under Objective 3.

Activity 1.5. Conduct observations and analyses of the interactive behaviors and responses of the student's communication and social interaction partners across contexts. A critical component of this research project was the analysis of how the interactive behaviors of a student's peers, acquaintances, teachers, community members, and others changed or differed in relation to interventions (e.g., peer-mediated, program development), time/familiarity, situation or activity, and environment. Interventions must have impact upon the social interaction partners of the individual with deaf-blindness, particularly peers and teachers, if meaningful social relationships are to be developed. Of interest were what aspects of social interaction behavior changed under what conditions, and whether such changes in interactive patterns generalized across partners.

Activity 1.6. Analyze the extent, frequency, forms, and contexts of the social interactive and communicative opportunities that a student with deaf-blindness initiates. A student's nonspeech communication and social behaviors, and the interactive gestures he or she provides that may go unrecognized, are critical to identify as potential opportunities for engaging in interaction (Downing, 1989; Mar, 1991). Effective interventions to promote social exchanges between students with deaf-blindness and peers must begin with this process. Using Stillman's (1990) classroom observation protocol, observations of students in school as well as in nonschool environments were analyzed periodically both for the interactive opportunities presented by the student, and those responded to by others. Of particular interest were the relative frequencies with which these opportunities were presented and responded to across contexts, over time, and in relation to interventions.

Activity 1.7. Assess attitudes of peers and community members regarding their social relationships to students with deaf-blindness. Attitudes and perceptions of peers and community members regarding their perceptions of the social interaction behaviors of and social relationships with students who are deaf-blind were important to evaluate. Attitudinal differences and changes were assessed as functions of the student's degree of

integration or inclusion in regular education, increased familiarity with peers, extent of social support, age, and many other significant variables. Further, where existing positive relationships already existed between students with deaf-blindness and other individuals, analyses of the factors that related to the maintenance of these relationships were conducted.

Activity 1.8. Identify and evaluate family goals and concerns regarding the development and maintenance of social relationships by their children. A recent study (Hamre-Nietupski et al., 1992) has examined the educational priorities that parents have identified for their children with severe disabilities. This project sought to extend this pilot work by interviewing and working closely with parents of students with deaf-blindness. Such information was used to document the importance of social interactions and social relationships as formal educational goals, and to develop social intervention plans involving educator-family-peer teams. Differences in how parents/family members value the development of social relationships were addressed with respect to community settings, degree of educational integration, degree of students' disabilities, existing social supports, and other critical variables.

Activity 1.9. Assess and analyze changes and differences in the development, maintenance, extent, and quality of social relationships of individuals with deaf-blindness as functions of programmatic interventions. A primary objective of this project was represented by the multitude of observations, studies, analyses, and documentations of social relationships of students with deaf-blindness, and how these relationships are enhanced by interventions, inclusionary or integrated educational programs, social opportunities in the community, educational planning, time and experience in positive social environments, and other factors. Over the course of this project, several dependent measures of social relationships of each student were collected, including the extensiveness of social maps or networks, depth of relationships with the same peers over time, the range of individuals with whom the student had regular contact, familiarity with

the student by members of the school or community, peers' inclusion of students in regular activities, etc. These analyses were conducted at several points over the project period to assess how the qualities of specific relationships changed (e.g., degree of perceived closeness, number of contacts per week, amount of time spent per contact, involvement in leisure routines).

Activity 1.10. Evaluate improvements in the quality, generalization, and maintenance of social interaction and communication behaviors of students with deaf-blindness and in their dyadic exchanges with peers across supportive environments over time. In addition to monitoring changes in the development of social relationships, a major purpose of this project was to identify circumstances and conditions under which specific communication and social interaction skills and behaviors (e.g., initiation, turn-taking, length of interaction, response to greetings, complexity of expressions) were facilitated through natural opportunity, interventions and supports, and social and educational environments. The frequency of observations of each student, along with detailed analyses of communication and social interaction behaviors, provided considerable data to determine how specific interaction patterns and styles are affected by positive changes. Thus far, very little evidence exists on such specific changes in the interactive behaviors of learners with disabilities, in general. Changes and differences in dyadic behaviors (exchanges between students with and without disabilities) and in the appropriateness of the linguistic/social events (e.g., age appropriate activities) were also evaluated across environments. Contexts (e.g., highly integrated educational setting, presence of many supportive peers) associated with the generalization and maintenance of learned interactive and communication behaviors were of special interest.

Objective 2. To develop methods, procedures, and tools to evaluate changes and differences of students' communication and social interaction behaviors across natural social environments.

This objective served to identify the full range of dependent variables, observational procedures, other data collection procedures, and the extensive set of tools and measures that were used to address each of the research questions. For this extensive long-term research study, there was a need to develop an assessment profile that cohesively examined the sequences of interactive behavior, appropriateness of behavior, peer perceptions, social environments, purposes of social interaction, and changes as functions of environmental conditions (Guralnick, 1990).

Activity 2.1. Identify the relevant dependent variables for each of the research issues and questions of concern. This activity was conducted concurrently with Activity 1.1, design of the research protocol. Appropriate dependent variables were identified for each of the major research questions and concerns. For example, dependent variables for baseline information on the social interaction behaviors of students across contexts included frequency of social initiation behaviors, time spent in direct interaction, quality and degree of appropriateness of social response, number of interactive opportunities provided to others, percentage of time spent in integrated environments, breadth of expressive and interactive behaviors, etc. Each research issue was addressed using a multivariate approach. That is, several dependent measures were selected to address specific aspects of each research concern.

Activity 2.2. Review, select, adapt, and/or develop tools and measures for data analyses. Observational tools and measures to provide these data were selected once the dependent measures were selected. This activity was conducted concurrently with Activity 1.2, design and establishment of the data base. Such tools and measures included: extensive observational coding systems (e.g., Stillman, 1990); methods and tools to analyze communication and social interaction behaviors of learners with deaf-blindness (e.g., Mar & Sall, 1991; Rowland, 1987); methods to code dyad and peer-

group exchanges; measures of teacher responsiveness; attitude measures; interviews/questionnaires for peers, family members, and educators; analyses of social networks; etc.

Activity 2.3. Design and develop the processes and methodologies for observational research and other forms of data collection. Specific procedures and guidelines were developed for the observational research. Observational procedures and recording systems derived from current practices (e.g., Carta & Atwater, 1990; Odom, Peterson, McConnell, & Ostrosky, 1990; Stillman, 1990) were modified for use in this project so that the interactive and communicative behaviors of primary interest could be readily identified and coded. Observations were conducted in schools, classrooms, and community environments where interactions occurred naturally. In particular, verbatim field notes (or chronologs in which all behaviors of students in interactions were recorded) and time sampling of interactive behaviors (focusing on initiations, time spent in social exchange, type of communication partner, form of social interaction response, opportunity provided to peer to interact) were used.

Activity 2.4. Expand and validate measures of expressive communication and social interaction to assess how context affects social behaviors of learners with deaf-blindness. Members of this project have been developing and field-testing assessment tools ("Profiles of Expressive Communication and Social Interaction" [Mar & Sall, 1990]; "Communication Matrix" [Rowland, 1987]) to describe the breadth and complexity of expressive communication and social behaviors of individuals with multiple disabilities, including deaf-blindness. These are observational tools that identify an individual's behaviors as being potentially or functionally communicative, and that describe the degree of competence the individual has achieved along several dimensions of social interaction.

Objective 3. To identify and promote the use of effective strategies, environmental factors, and supports that facilitate social interaction and the formation of social relationships between students with deaf-blindness and peers in their communities and schools.

The main thrust of activities under this objective has been the examination of natural and structured conditions (e.g., teacher-mediated peer support) that facilitate the social interaction behaviors of students with and without disabilities, and which may help mold the formation of ongoing social relationships. The observational research was conducted systematically across a learner's school and community environments in which physical, social, motivational, and temporal factors were taken into regard. Under this objective, this project sought to identify, implement, and evaluate the effectiveness of a range of interventions, from increasing dyadic exchanges to the development of supportive educational programs, on social interaction and communication behaviors of the learner and his or her peers.

Activity 3.1. Identify environmental contexts, natural school and community resources, daily and weekly opportunities, activities, and facilitators that can serve to enhance the social interaction behaviors of individuals. This activity served as the basis for the plan to promote interactive opportunities for each student, and to examine contexts and environments in which social relationships could be enhanced. This activity identified for each student involved in the project the extent of opportunities and human resources available to promote social integration. The first step of the team process was to take such an "inventory" for each student.

Activity 3.2. Develop a team process model to include students, family members, educators, peers/schoolmates, and others to identify goals and activities that support social interactions and the development of social relationships. A cohesive team was

developed for each student, to conduct extended planning meetings which focused on identifying the issues relevant to the student's social inclusion in the school and community. Each team met throughout the duration of the project to establish roles and responsibilities, review and monitor progress, create social intervention plans, and revise goals.

Activity 3.3. Implement appropriate and potentially effective peer-mediated opportunities and strategies to promote individuals' social interaction and communication behaviors. This activity included teaching and supporting peers to: recognize communication and social behaviors; appropriately respond to the initiations of students with deaf-blindness; involve students in social activities; initiate conversations; assist students in performing group-oriented social activities; etc. This was accomplished through activities such as modeling and group discussions. The social interaction behaviors of students with deaf-blindness were closely monitored during these various social activities involving peers.

Activity 3.4. Identify effective models of educational programs that promote opportunities for interaction in integrated settings. Informal reviews of educational programs identified as implementing "best practices" with regard to social inclusion were conducted. Specific attention was given to model programs established within and around the New York City area in which students with severe disabilities received support and opportunities to develop social relationships in integrated programs. This project worked with educator-family-peer teams to incorporate elements of successful programs within student's school and community. The schools involved in this project represented various models and degrees of integration.

Activity 3.5. Promote the use of effective instructional activities and strategies designed to enhance meaningful social exchanges and supports. This project facilitated the efforts of regular and special educators to implement supports and activities designed to foster interaction of students with and without disabilities. Promoting the use of

instructional activities included: consulting to educators on the identification of a learner's social interactive skills; providing strategies to create more positive environments for social interaction; assisting teachers to learn effective means to respond to students with deaf-blindness, as well as dyadic experiences involving peers; effectively using special and regular educators, assistants, and related service providers to facilitate student-to-student interaction while addressing particular educational needs of the learner with deaf-blindness; selecting and organizing group tasks and materials that foster peer interaction; etc.

Activity 3.6. Plan opportunities and conduct interventions in the community environment to promote integrated social experiences of students with deaf-blindness. Several activities involving family members, in particular, were conducted to survey the opportunities and programs within communities and neighborhoods in which students with deaf-blindness could take part. Thus, this project devoted considerable attention to helping identify after-school and weekend activities in the community, and to support the efforts of community members to accommodate to the needs and interests of these families. Observations, as described under Activity 1.3, and meetings with team members were conducted in these environments during the course of this project.

Activity 3.7. Design and implement individualized programs of combining multiple strategies and interventions based upon the students' needs, interests, resources, and environments. The outcome of the team process model was the development of a social integration plan in which team members identified the specific concerns for promoting the student's social integration within school and community environments. Team members and project staff worked to identify relevant intervention approaches matched to the environments, opportunities, and resources of the learner, and designed a process to implement and coordinate these interventions. Interventions involved the simultaneous application of individualized peer-mediated, environmental, teacher-mediated, and programmatic strategies

Activity 3.8. Monitor, evaluate the effectiveness of, and revise intervention programs through frequent, systematic analyses of observational data (as described under Objective 1). One of the critical objectives of this project was to specifically document the effects of programmatic intervention approaches on positive changes in the social interaction behaviors of students with deaf-blindness and their peers. The interventions that were implemented were closely monitored through detailed observational analyses, as described under the activities of Objective 1.3 to 1.11. These data provided the basis for directly relating methods and strategies to facilitate interaction with specific behavioral outcomes, both in short-term and long-term interaction patterns.

Objective 4. To design and implement interventions to enhance the maintenance of long-term social relationships and social networks between students with deaf-blindness and members of their communities and schools.

In addition to the activities under Objective 3, which sought to enhance social interaction behaviors leading to the formation of social relationships (dyadic level), the activities under this objective were designed to promote the maintenance of relationships. Although the enhancement of direct social interaction was expected to nurture social relationships, additional interventions and activities at a more systemic level were necessary to support the development of long-term social networks.

4.1. Increase awareness among regular and special education students and personnel within schools about issues of disability and deaf-blindness. Several activities were conducted in various schools throughout the academic year to assess attitudes and perceptions of students in regular education programs toward individuals with severe disabilities and deaf-blindness. This information was used to determine the need for educational programs designed to increase awareness of the nature of disability

conditions and the inclusion of students with disabilities in regular school and community activities. Changes in awareness, perceptions, and attitudes were assumed to be instrumental to successful social integration and increased contact between peers.

4.2. Support the involvement of regular education students and neighbors in ongoing social, community, and educational activities in which individuals with deaf-blindness can take part. Project staff and members of the planning team met to identify their concerns and questions regarding facilitating the social inclusion of the student with deaf-blindness as well as to provide direct support and suggestions to continue specific activities.

4.3. Assist families to identify and utilize ongoing community programs and activities in which their children can be included. Planning team members and project staff, including representatives from parent networks, were involved in assisting families of students with deaf-blindness to consider resources in their neighborhoods and communities that could serve their long-term needs and interests. This activity was, therefore, closely tied to Activity 3.6, but served as the basis for helping families establish ongoing ties to programs and agencies.

4.4. Develop a process to monitor progress toward the long-term attainment, extension, and maintenance of social networks. Haring (1991) has remarked upon the need for the development of evaluation models to assess changes in social networks, and to document extents to which learners can socially participate in integrated educational and community settings. This activity represented an effort to monitor the "social maps" of learners with deaf-blindness, and to identify changes in the qualities of relationships and extensions of the social network over the project period and in relation to interventions and opportunities for social integration. In addition, a major concern was to provide a model for continuing social supports to learners beyond arbitrary timelines or through periods of major transition. Data obtained from several measures assessing increased social opportunities, expanded social networks, quality of social relationships

and friendships, family satisfaction, and related concerns were used to evaluate progress toward the achievement of long-term aims, and to modify intervention approaches as needed.

4.5. Evaluate long-term systemic changes that promote social access and support for individuals with deaf-blindness in their schools and communities. Systemic changes of interest to this project included attitudinal changes, increases in socially integrated or more inclusive educational programs, greater access to community activities, and changes in education delivery models to support the development of social relationships between students with and without disabilities. This project assessed systemic changes in both the community and school environments of the students by analyzing data at the individual (e.g., attitudes and perceptions) and dyadic level (increased opportunities for social exchange), and also by documenting program and policy changes within schools.

Objective 5. To identify and encourage the implementation of best practices for supporting the development and maintenance of the social relationships and social networks of students with deaf-blindness.

The current literature on social competence and social relationships has identified numerous effective interventions, approaches, and programs to facilitate social integration of students with and without disabilities. Haring (1991) has reviewed many promising interventions with respect to students with severe disabilities, but as he notes, such practices have not been validated or well researched. The activities under this objective sought to identify best practices aimed at enhancing individual social skills, dyadic and peer-group exchanges, the formation and maintenance of social relationships, the social opportunities within schools and communities, and systemic changes involving service delivery.

Activity 5.1. Define general environmental and contextual factors in schools and communities that promote positive social environments. The identification of best practices began by examining the contexts within which increased interactions and social relationships developed. Such factors included the students' opportunities to interact with peers, grouping patterns, the presence of classroom- or community-based facilitators, selection and use of materials/resources, etc. Ecobehavioral analyses (Carta & Atwater, 1990) were conducted across situations for each of the students involved in the project as a means to identify "settings" that led to increased interactions.

Activity 5.2. Identify the common factors and processes among intervention approaches (e.g., peer-mediated, teacher-structured, programmatic) associated with successful outcomes in the direct interaction and long-term relationships involving students with deaf-blindness. In the course of evaluating interventions to enhance social interactions and promote social relationships, data was also analyzed to examine specific processes, strategy sequences, and combinations of interventions that were effective in promoting specially desired outcomes (e.g., increased initiation, better identification of communication opportunities, extended social networks, etc.).

Activity 5.3. Evaluate the generalizability of successful interventions and practices within project-based school and community programs, and facilitate their replication. Strategies associated with successful interventions were identified by educational teams and project staff. For example, peer-mediation activities, awareness programs, or teacher-mediated interventions that were especially promising or successful in one classroom were considered for implementation in other classrooms or at other project sites. These replication sites provided the project with opportunities to validate interventions, which is an important aspect of the identification of best practices.

Activity 5.4. Document best practices for enhancing social interaction skills and social relationships of students with deaf-blindness and severe disabilities for local and state education agencies. The documentation of best practices, as described above, was

prepared for local and state education agencies. Special attention was paid to the unique urban issues involving the implementation of school and community programs designed to support the development of social relationships between students with severe disabilities and peers.

Objective 6. **To effectively disseminate information, materials, and resources pertaining to the enhancement of social interaction skills, social competence, social relationships, and social networks of individuals with deaf-blindness.**

The dissemination activities of this project represented the means to ensure that the research findings, educational resources, materials, tools, and measures, and documented intervention strategies were presented, distributed, and made available to appropriate audiences. The dissemination and coordination activities of this project were conducted at several levels, affecting students and their families, educators, teachers in training, professionals, and educational administrators. Dissemination efforts were coordinated with existing organizations and programs for individuals with deaf-blindness at local, state, and federal levels.

Activity 6.1. Coordinate project efforts with the New York State Partnership for Systems Change project, the New York City Systems Change Task Force, and the New York City Board of Education programs on integration and inclusion. During the course of the project, there existed close coordination between members of the project and state and local education agencies. The project director was a member of the Advisory Council of the NYS Partnership for Systems Change project and the NYC Systems Change Task Force. The local Task Force served as a monitoring and general advisory council to this project, and efforts were made to ensure that this project would extend the interests and goals of the systems change program. Activities included the sharing of

research findings, identification of promising integration and inclusion practices, mutual problem solving around systemic or programmatic issues, promotion of increased networking, documentation of the positive social benefits of inclusion or integration of students in regular and special education, and coordination of inservice training programs.

Activity 6.2. Provide preservice and inservice education on the social integration and social relationships of students with deaf-blindness to educators, professionals, paraprofessionals, related-service providers, family members, teacher trainers, administrators, and others through national and local workshops, symposia, seminars, and presentations. Preservice and inservice training programs on social integration and social relationships of students with deaf-blindness were conducted throughout the project. The Program on Multiple Disabilities of Hunter College, which has a teacher training program on deaf-blindness and multiple disabilities, provided support, facilities, and personnel to create and conduct a conference on social relationships. The conference was organized in collaboration the Developmental Disabilities Center of St. Luke's/Roosevelt Hospital, with the support of a local parent advocacy organization, to ensure that parents of children with deaf-blindness were able to attend or participate. Other inservice seminars, workshops, formal presentations, symposia, and colloquia were developed over the course of the project.

Activity 6.3. Develop written and/or videotape resources for family members and educators on strategies, activities, environments, and supports to promote social relationships of students with deaf-blindness. Resources for family members and educators on social support interventions and strategies were provided as part of this project's dissemination efforts. The parent network and advisory council which were closely involved in this project served to identify needs and issues.

Activity 6.4. Extend, validate, and disseminate the Profiles of Expressive Communication and Social Interaction as an assessment and observation instrument to

describe social-communicative behaviors and skills of individuals with deaf-blindness. For the purposes of this project, communication assessment required use of an observational tool in which context variables such as activity, environments, communication partners, location, familiarity of routine, etc., were considered. It is anticipated that the "Profiles of Expressive Communication and Social Interaction" will be validated with students who have severe disabilities and/or deaf-blindness in the future.

Activity 6.5. Support the activities of parent organizations and community programs that encourage the development and continuation of integrated and inclusionary opportunities. Throughout the course of the project, there was ongoing contact with the New York Parent Network, the Parent Advisory Council to the New York City Board of Education's District 75, the National Family Association For Deaf-Blind, and individual parents of the students involved in the project. This project served as a resource to families by assisting their efforts to create or promote more integrated or inclusionary community and educational activities and programs; facilitating the development of family-peer-educator teams to support the development of social relationships and networks; sharing new information disseminated by other research projects and research institutes; and assisting with the evaluation and planning of social integration activities for individual students. Two parents of children with deaf-blindness and one parent of a deaf adolescent who are integral to parent organizations were directly involved in this project as advisors/consultants.

Activity 6.6. Share findings and collaborate in research and dissemination with national organizations, the Consortium for Collaborative Research on Social Relationships, and the consortium of research projects on Social Relationships of Children and Youth with Deaf-Blindness. Direct collaboration was made with the Consortium for Collaborative Research on Social Relationships, the other research projects on social relationships and deaf-blindness, and DB-LINK (The National

Information Clearinghouse On Children Who Are Deaf-Blind) for the purposes of: (1) sharing and disseminating research on interventions and educational practices; (2) collaborating in the production of written resources and other materials; (3) organizing symposia or other forms of presentation; (4) sharing research methodologies and tools; and, (5) solidifying efforts at a national level to identify and promote best practices for the enhancement of social integration of persons with deaf-blindness.

Activity 6.7. Prepare a monograph or paper on Social Relationships of Children and Adolescents with Deaf-Blindness. Written products for the professional audience were primarily in the form of individual papers, conference proceedings, and a journal article. These forms were used as they could best accommodate the design and diversity of the interrelated research issues and questions that were addressed throughout this project. The journal manuscript, submitted for a special issue on deaf-blindness to the Journal of Visual Impairment and Blindness, and other papers were developed around particular topical areas.

II. Methods and Procedures

A. Participants

1. The Students and Their Families

Ten children and adolescents with deaf-blindness participated in this project. The students ranged in age from 4 years, 11months to 18 years, 9 months at the start of the project (mean of 9 years, 7 months). There were seven boys and three girls. The majority of students (seven) were identified as having other disabilities in addition to their deaf-blindness, including cerebral palsy, mild to profound mental retardation, and seizure disorder. Of the students participating in this study, three were assessed as having

a severe-to-profound hearing loss, five with a mild-to-moderate loss, and the degree of loss for two of the students was not obtained or unknown. With regard to vision loss, two students were totally blind or had light perception, seven were identified as cortically blind or as having limited vision, and one student's degree of vision loss was unknown. The students participating in this project communicated through a variety of means, from basic gestures and vocalizations to fluent sign or spoken language. The majority of students used adaptive devices, including hearing aids, braillers, adapted computers, and/or augmentative communication devices. Collectively, the students represented a heterogeneous and diverse group in terms of their hearing and visual impairments.

Furthermore, with regard to the more traditional features of diversity, this group of students and their families also varied in their ethnic and cultural backgrounds, household incomes, and religious denominations. Fifty percent of the students were of Hispanic heritage, thirty percent were Caucasian, and twenty percent were African-American. All of the students lived with their natural families, sixty percent of which were headed by single mothers. In addition, all but two of the students in this project had siblings at home. Nearly half of the students lived in the inner-city, which allowed the project to address the many unique issues of friendship and social relationships that arise in urban environments. Student demographic information is presented in Table 2 on the following page.

2. School and Community Programs

The students participating in this project were selected from various school sites within New York City and one setting in suburban Long Island. At the start of the project, nine of the students were enrolled in public school and one attended a private School for the Deaf. Of those students attending public school, two were enrolled in a special education high school which served students with mild to severe disabilities. This

Student Demographics

Student	Age	Sex	Visual Impairment	Hearing Impairment	Other Disability	Degree of MR	Communication	School
1	17	M	Unknown	Profound Sensorineural	Cerebral Palsy	Mild	Speech	Special Education
2	12	M	Blind; Light Perception	Moderate	None	None	Speech	Inclusive Education
3	17	M	Limited Vision; Cataracts removed; Degenerative	Bilateral Sensorineural (Moderate in left ear; Severe in right)	Congenital Rubella	None	Speech	Residential School
4	12	M	Cortical Blindness	Unknown	Cerebral Palsy	Severe/ Profound	Gestures	Special Education
5	9	M	Low Vision (Legally Blind)	Bilateral Profound Sensorineural	Congenital Rubella	None	Sign	School for the Deaf
6	21	F	Legally Blind; Retinal Detachment (OS)	Bilateral Sensorineural	Seizure Disorder	Moderate	Speech	Special Education
7	8	F	Totally Blind; possible light perception	Moderate-Severe on left; Profound on right	CHARGE Association	Severe	Gestures	Special Education
8	8	M	Cortical Blindness	Moderate-Severe	Cerebral Palsy	Profound	Gestures	Special Education
9	6	M	Cortical Blindness; Right Retinal Detachment; possible light perception	Unknown; Unresponsive to sounds	Dsyfunction; Respiratory/Cardiac Arrest	Profound	Gestures	Special Education
10	7	F	Cortical Blindness	Mild	Microcephaly	Profound	Gestures	Special Education

Table 2. Student Demographics

23

71

self-contained school was located in Staten Island, NY. The majority of students attending this school, including the two in our project, were involved in some type of vocational training in the community or school (e.g., cleaning the local park; working in the school store). The students had opportunity for non-structured interaction with peers during lunch in the cafeteria, and otherwise were with their classmates for the course of the school day. One student in the project attended a general education high school where he received special education services. After several years in the inner-city public school programs, which were academically successful but socially difficult for him, he transferred mid-project to a residential program for students with visual impairments. Five of the participating students attended special education elementary school programs in New York City, which were housed within regular elementary schools. These "schools within schools" were designed as totally separate programs, with separate administrators and educators, and often were housed within a separate wing of the building. As such, there were limited opportunities for the children in special education to interact with peers from the general education program. Depending upon the individual teachers involved, some situations were created to allow for "free-time" interaction on the playground, and in three instances, the students participated in mainstreaming or reverse mainstreaming activities. Lastly, one student in the project attended a relatively small elementary and middle school located in a rural/suburban community of Long Island, NY. This was his neighborhood school and could be described as a fully inclusive educational program. Altogether, the ten students in this group were represented by eight teachers.

For the most part, participation in community or neighborhood activities were minimal. Some of the students attended church programs with their families or participated in "special" programs such as Special Olympics or Special Boy Scouts. One student, who attended one of the educational programs described above as a "school within school" setting, also participated in a religious Sunday School program. This

child's mother was instrumental in gaining access for her son and ensuring that he became a member of the group.

B. Data Collection Procedures

Extensive information was collected on each student's social interaction and communication behaviors as well as their complete educational and medical history, for the purpose of designing interventions. In this project, information was gathered from reviews of educational records and individual education plans, school-based observations of the student, team meetings and interviews with school personnel including teachers, classroom assistants, unit teachers, and/or principals, meetings and interviews with parents, and teacher and parent surveys on friendship. Data collection and recordkeeping procedures were established as a means to identify and evaluate relevant interventions.

1. Collection of Background Information

Record Review. Each student's educational records were first reviewed to obtain information on: individual characteristics (e.g., age, degree of sensory impairment, medical diagnosis, degree of mental retardation); family characteristics (e.g., number of siblings, language spoken at home, living arrangements); communication behaviors (e.g., expressive and receptive modes, history of augmentation, symbol use, braille or print reader); psychosocial issues (e.g., behavioral concerns, functional skill levels, social interaction skills, preferred activities); cognitive and learning skills (e.g., concept knowledge, academic skills, sensorimotor functioning); educational programs (e.g., IEP goals, related services, schedule of activities); and physical characteristics (e.g., physical impairments, gross and fine motor coordination and control, mobility). A database was established for each student in which this information was kept. New information was

entered into the database to keep the records current. This was especially important for the purpose of reviewing, monitoring, and revising intervention goals and activities throughout the course of the student's involvement in the project. An example of the Record Review Form is seen in Table 3 on the following page.

Team Meetings. Initial meetings were conducted with teachers and administrators to identify the extent of social opportunities and human resources available to promote the student's social integration in school-based activities. An "inventory" of social opportunities and relevant issues to the student's social inclusion were identified. When possible, meetings were also held with general education teachers who were interested in participating in the development of socially inclusive activities between the target student and peers from the general education classes. During these meetings, teachers identified key issues which the project could address in helping to foster social opportunities. Meetings with teachers were typically held during their preparation period, before, or after school. Notes from these meetings were kept with the student's database, and served as background information for identifying appropriate interventions (see Table 4 for an example of these notes).

Similar meetings were held with parents at the beginning of their child's participation in the project. Parents discussed their child's skills and abilities, social opportunities, and prospects for friendship at school and at home. These meetings were also used to identify the parent's concerns and interests regarding social issues and expanding opportunities for their child. These meetings were either conducted in the child's home or in a private meeting room at the child's school, depending upon the parent's preference.

[Tables 3 and 4 to follow]

Table 3. Record Review Form

Overview Sheet

Student Name: Benjamin D.

Age: 10 years old

School Program: PS - Manhattan

( ) totally segregated special education
(X) segregated special education within general ed. building
( ) general education school

Degree of Vision Loss: Cortical blindness, optic nerve hypoplasia. Vision Acuity is 10/200 both right and left eye

Degree of Hearing Loss: unknown--inconsistently responds to sound

Degree of Mental Retardation: unknown-probably severe/profound

Other Disabilities: unknown (Cerebral Palsy is identified as his formal disability, for medical reimbursement purposes)

Primary mode of expressive communication: Benjamin uses some physical signals. He signs for "eat" and "drink" and uses other gestures inconsistently. He cries and screams when is frustrated or upset. He hits himself, bites his hands, and occasionally hits other people around him.

Language spoken in home: English

Parents & Siblings: Two-parent family. He is the only child in his family. He has close and frequent (weekly) contact with his cousins (three girls ages 8, 6, and 3), and they all lived in the same building until this past year.

Neighborhood/Community: He lives in a Manhattan apartment building.

General information: He is ambulatory, is able to operate switch toys with minimal assistance, and is able to locate his classroom and his desk. He attends and maintains gaze on moving object for about 20 seconds. He has a 1:1 paraprofessional at school who also goes to his house 3 days/week after school (she maintains very close proximity to him, and provides total assistance for most tasks or activities). He eats independently and is being toilet trained on schedule.

Opportunities for Social Interaction:
- Ben is participating in a Sunday school program at a synagogue with a group of peers without disabilities (his cousins also attend the program, but are in different classes).
- A group of fifth grade students come into Ben's class for science once per week, the group rotates every few weeks and then a new group of students from the same fourth grade class.

SOCIAL INTERACTION PROJECT
DATA COLLECTION AND OBSERVATION FORM

1.A Student ID 4 1.B School ID 4 1.C Date 3/9/93

I. Program Information

2. School's name, address, and telephone number

3. Is there a program for children without disabilities at this school? [X] Yes [ ] No

3.a Do opportunities exist for social interactions between children with and without disabilities at school? [X] Yes [ ] No

Provide examples: Teacher can take students to the playground for recess when general ed. students are there also - same for lunch in the cafeteria.

4. Names, position, and phone numbers of contact people at the school site.

Teacher – Helen
Assistant teacher – Francis
Unit Teacher – Roberta

II. Student Information

5. Student's name, address, and phone number

6. Date of Birth: 08/10/82 (mo / day / yr) 7. Gender: [X] M [ ] F

8. Birth order among siblings: _____ of _____ or only child X

VI. Physical/Motor Variables

34. Gross Motor: Ambulates with fixed trunk. Does not have reciprocal arm swing. Wears AFOs. Can run with prompt and ascend steps.

35. Fine Motor: Releases objects when he desires; can turn a door knob.

36. Mobility Skills: Walks slowly while holding someone's arm or hand; releases objects.

38. Alternative Motor Responses:

VII. Goals

39. Social Skills
- Participate in games and playground activities with regular education students
- Interact socially with peers
- Use activity communication board to choose activity (to increase choice-making)

40. Cognitive
- point to "yes" "No" on communication board.
- Begin to use facilitative communication board.

41. Other
- use signs for "eat" "drink" "more" and "toilet"
- be class monitor = feed fish and water plants

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9. Degree of Vision Loss: 10/200 (Visual Acuity) 10. Level of Loss: (Low Vision) LV (Functional Blind) FB (Totally Blind) TB

11. Visual Impairment if known: Cortical Blindness – optic nerve hypoplasia

12. Degree of Hearing Loss: unknown 13. Level of Hearing Loss: Mild (25-40 db)
Mod (40-55 db)
MSL (55-70 db)
SL (70-90 db)
PL (90+ db)

inconsistenty responds to sounds

14. Mental Retardation: [X] Yes [ ] No 15. Degree of MR: Profound ↕
Severe _____
Moderate _____
Mild _____

16. Other disabilities: Diagnosed with cerebral palsy

17. Primary Language spoken in the home:
[X] English [ ] Spanish [ ] Other: _____

18. Ethnic/Racial Background: [X] White [ ] African American [ ] Asian American
[ ] Hispanic [ ] Other _____

19. Student's living arrangement:
[X] two-parent home [ ] one-parent home [ ] extended family [ ] Other: _____
Both parents work

III. Student's Communication

20. Child is a: [ ] Reader [X] Non-reader
_____Print
_____Braille

21. Level of Communicative Competence: [ ] Level I [X] Level II
[ ] Level III [ ] Level IV [ ] Level V [ ] Level VI [ ] Level VII
Provide examples of behavior(s):
1. cries and hits when upset or bored
2. bites hand when upset
3.

22. Expressive Modes:

[ ] Vocal		[X] Physical Signals	[ ]Both
X Cry, gurgle,coo	____Mimic sounds	____Total body	
X Fuss	____Single words	____Manual	
X Laugh (non-speech)	___Comb. of 2+	X Facial - grimace	
____ Intonated sound	spoken words	____Eye	
		____Natural	

Provide examples of behavior(s):

1. uses gestures inconsistently for "eat" and "drink"

2.

3.

23. Receptive Modes: [ ] Vocal [ ] Physical Signals [X] Both - total communication

Provide examples of behavior(s):

1. responds to touch

2. teachers give tactile and verbal prompts to initiate and sustain movement (e.g., to stand
3. up; to walk down hall)

24. Symbol System:

[X] Actual objects	[ ] Representational objects
[ ] Photographs of real objects	[ ] Drawings of real objects
[ ] Pictures	[ ] Pictograph
[ ] Combination of more than two	

Provide examples of how symbol systems are used:

1. makes choice by touching object

2.

3.

25. Type of Augmentation: [X] Electronic [ ] Non-electronic

Describe device: Beginning to use Speak Easy augmentative device with 2 switches for "yes" and "no".

IV. Student's Psychosocial Variables

26. Behavioral Concerns:

[ ] Aggression [ ] Withdrawal [ ] Nonresponsiveness

[X] Other challenging behaviors

Provide examples of behaviors:

1. may hit self & scratch own face

2.

3.

27. Level of Adaptive Functioning:

Feeding Skills: [X] Self-Feeding Skills: X Finger Foods X Drinks from Self-Held Cup (but has tendency to drop cup)

___ Eats with Spoon

[ ] Cooperative Feeding Skills

[ ] Passive Feeding (Intravenous, nasogastric tube feeding)

* Eats independently but needs reminders to eat slowly and put down fork.

Toileting Skills: [ ] Toilet Trained [X] Requires training

[ ] Uses Alternative Toileting Techniques

Dressing Skills: [ ] Independent [ ] Verbal Assistance [X] Physical Assist.

Other adaptive skills:

28. Social Interactions: Child [X] Initiates ____linguistic __X__nonlinguistic - initiates only when he really wants something

[X] Responds when prompted [ ] Takes turns

29. Educational Setting: [ ] Special School [X] Special Program in Regular School

[ ] Special Class in Regular School [ ] Integrated Setting

Related Services:

P.T. = 4x/wk
O.T. = 3x/wk
vision = 2x/wk
Language = 5x/wk (3x = 1:1 ; 2x = 3:1)
1:1 para professional in classroom

V. Cognitive Variables

30. I. Q. Level: _____ Test used to determine I. Q.:_____

M. A.:_____

31. Academic Achievement:

Reading Level: _____ Test used to determine level:_____

Math Level: _____ Test used to determine level:_____

Other achievement areas:

not doing academic work

32. Cognitive Profile: Reaches out and takes desired toy; can operate switch toys; knows where his desk is in the classroom; knows where classroom is in the hallway; attends to and maintains gaze on moving object for @ 20 seconds; follows object from mid-line; reaches for & grasps brightly colored toys.

33. Previous Tests:

Table 4. Team Meeting/Observational Notes

October 14, 1994

We arrived at the school at 9:30 in the morning. The visit began with a meeting with Ben (the principal) and project staff (Harvey, Juliet, Nancy) in a discussion of issues related to the inclusion of Mike and another boy named Timmy (in teacher Gerry's class this year who has Down Syndrome), and other students in general. Ben said that he while he feels this is the right placement for Mike ("...with Mike, it isn't real inclusion" -- meaning that Mike's academic skills are not that far off from the other kids and the teacher doesn't have to prepare entirely different activities for him), he isn't sure about the new 4th grade boy, Timmy (..."he isn't even on a 1st grade level."). He went on to say that inclusion isn't for everyone, and at this point it is really a "social experiment". Later in the day, while we were observing Timmy in his class, Ben approached me and Juliet and said that one of the primary reasons Timmy was in the class was because the CSE and school were concerned about his parents taking the case to due process and they didn't want a lawsuit, but that he didn't know if it (this regular class placement) was going to work.

After meeting with Ben, we all went down to Mike's 5th grade classroom and were introduced to his teacher, Eileen T. About eight or nine of the students in this class were also in Mike's class last year, and of this group, about five of them were "hand-picked" by Ben and Gerry. Several of the students from last year recognized us ("aren't you the lady from the hospital in the City"). We then spoke

with Eileen and Ben in the meeting room for about 40 minutes. Eileen began by telling us how Mike is doing so far this year and she first said that she "was pleasantly surprised" by his social skills, which were much higher than his academic. She said that he hasn't been getting too frustrated (crying only a few times since the beginning of the year), and that even though he doesn't initiate his own involvement or participation, he has made gains in the first few weeks of school. She said she tries to tell him when some of his behaviors (e.g.,. hand-flapping) are inappropriate and what other kids do in similar situations (she gave the example that rather than singing out loud or rocking wildly back and forth in his chair when he is waiting for something to happen, he could do what other kids do, like tap his feet). She also said she is trying to get the other kids to stop treating him "like a pet...and talking to him like a two year old." She said one of her goals for Mike is to make him more independent and socially more like other kids.

We observed Mike during a math lesson in his classroom. He was seated at his desk (at the end of a row) and Kyle (boy in his class from last year) was sitting next to him. All of the desks were pushed together in rows forming a large horseshoe with other rows in the middle. Michelle (Mike's assistant teacher) was leading the lesson (the teacher was on the other side of the room) and Kyle was simultaneously "translating" and working on similar math problems with Mike. The kids then all divided into small cooperative learning groups of three or four. Mike, Kyle, and another boy (small, short brown hair) worked together. Kyle read the questions outloud to Mike who then typed them into the brailler. Before the three began

the math work, Kyle told Mike what was going to happen and what he was doing ("I'm putting your paper in the brailler because we have to do word problems and these might be hard.). After Mike answered one of the questions, Kyle patted him on the head and said "good".

Later in the day we met with Michelle (assistant teacher) to get her input and perspectives on how the year is starting off. Ben was also involved in this meeting. The issue of calling on volunteers in the class to be Mike's "assistant" came up. Ben said it (the word "assistant") seemed like an "unequal" way of phrasing what they wanted the kids to do with Mike, and asked if we agreed. I suggested the term "partner" and Ben said he thought "associate" would connote a sense of equality and get the kids thinking of a grown-up business relationship.

2. Observations

After a student's records were reviewed, the student was observed in a variety of school and classroom settings. Observations were made of the student during an activity that provided natural opportunities for social interaction with the teacher or peers (e.g., group activity, lunch, recess). A formal protocol was developed which specified the frequency of observations, the length of each observation period, the time and location of observations, and the social, physical, and the situational contexts in which observations were made. Observations were conducted by at least one, and usually two, members of the research project following a specific timeline over the course of a school year (e.g., three half-hour observations completed on one day, every two weeks). For the majority of students, observations were conducted over a two-year period. Two methods of observational research, as described below, were utilized in order to obtain a rich sense of the student's social interactions and skills.

Time-sampling. A specific insrtument, the Social Interaction Observation Form, was developed by the project as a means of collecting data on the student's quality and pattern of social behaviors and communication (see Table 5 for an example of the instrument). This measure aimed to identify and assess changes in: the student's interaction partners and relative percentage of time spent interacting with peers versus teachers; the student's number of initiations in a given time period; the number of initiations by peers to student; the number of responses to peers; the length and duration of social sequences; and, specific qualities of the student's interactions (e.g., peers helping or providing assistance versus engaging in social or playing interactions). A cover sheet was designed to record general information including: date of observation; setting; time of observation; starting and ending activities; number of peers present with and without disabilities; and, number of adults present including 1:1 assistant. The observations were conducted in 30-second intervals during a 15-minute period. Each

member of the research staff carried a timer in hand, which indicated the end of an interval by vibrating. A vibrating timer was selected over a buzzer so as to minimize distractions in the classroom. Typically, the researcher sat in the back of the room or near the edge of the group interaction. The aim was to record as much of the interaction and conversation as possible without interfering with the natural dynamics of the group. When possible, two staff from the project worked together to obtain validity on the observations.

Activity and Environmental Checklist. In addition to the Social Interaction Observation Form, a Likert-type checklist was developed to identify and record environmental considerations during observations. The Activity and Environmental Checklist (presented in Table 6) was used in conjunction with the observation measures. It focused on: the degree of opportunities for student to interact with peers (e.g., ranging from interaction with peers throughout the entire period to student spending entire time alone or with adult); the quality of target student's interactions with peers; the degree and quality of student's participation in activity; peers' attempt to involve and appropriately provide assistance to student; communication between student and peers; teacher's attempt to facilitate interaction; the physical arrangement of the environment; and, adaptation and appropriateness of materials. Each category had four options ranging from most to least desirable. The researcher placed a check mark next to the option which most closely reflected what was observed, and wrote a brief note if necessary to describe a particular situation or circumstance. The aim of the Activity and Environmental Checklist was to monitor and assess changes in the target student's social inclusion in school and classroom activities.

Field Notes. Following observations made with the Social Interaction Observation Form and the Activity and Environmental Checklist, the project designed a structured field note form which was used to record qualitative aspects of the student's interactions. The field note form served to guide the research staff in taking

comprehensive notes of the student's interactions with peers. An example of this form, with accompanying notes, is presented in Table 7. The field notes were used to describe specific details of context, including identifying the number of students, individual classmates involved in interaction, grouping patterns and seating arrangements (e.g, documenting seating arrangements by drawing a map), and describing the teacher's role in facilitating interaction. Sequences of behaviors and interactions were recorded verbatim by a member of the research staff for subsequent analysis. Observations ranged from periods of 30 to 60 minutes. Field notes were collected using the form described above and were later typed into the computer and expanded to be more comprehensive. As with observations made using the Social Interaction Observation Form, field notes were collected in conjunction with the Activity and Environmental Checklist.

Taken together, the observational data provided information that could be used to help the student's team generate appropriate intervention goals and activities as well as to monitor changes in the student's social inclusion.

[Tables 5, 6, and 7 to follow]

Social Interaction Observation Form

Cover Sheet

Student Name: Lisa

Date of Observation 2/13/95

Observer Name: Nancy

Setting: Kindergarten classroom

Starting Time: 12:30

Starting Activity: water play Ending Activity toy animal play

Overall Number of Peers Present Without Disabilities: 3 at water table
5 at animal center
(@ 22 in whole class)

Overall Number of Peers Present With Disabilities: -0-

Number of Adults Present: 3

1:1 Paraprofessional or Assistant Present: (yes) [no] Fatima (code = F)

Additional Information: (code for Lisa = L)

When L cries/tantrums at animal center, F picks her up & sings to her, holding her on lap. Two girls come stand next to them & stare at L - L swings her arms & hits a boy - he backs away.

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Note: (C) = boy named Christoper

Trial	Interaction with Adult				Interaction with Peer with Disability				Interaction with Typical Peer				None	Comments
30 Secs.	Adult Initiate	Student Respond	Continue	Self-Initiate	Peer Initiate	Student Respond	Continue	Self-Initiate	Peer Initiate	Student Respond	Continue	Self-Initiate	No Inter.	(# of Peers; Direct Quotes; etc.)
1	✓												✓	(F) touches (L)
2	✓	✓											✓	(F) pours water on (L) table & continued (boy laughs)
3			✓											
4													✓	
5									✓	✓				(C) puts toy in (L) hand - he grunts
6													✓	
7													✓	(L) plays with water
8													✓	
9	✓												✓	(F) gives (L) toy
10	✓													(F) touches (L) briefly
11													✓	
12	✓												✓	
13													✓	
14													✓	
15													✓	
16													✓	
17													✓	
18													✓	
19													✓	
20													✓	
21													✓	
22	✓												✓	
23	✓	✓											✓	(F) touches her & calls her name; dries her off with paper towel; (B) yells
24			✓											(B) moves (L) away from water table
25			✓											(F) changes (B) shirt
26			✓											
27			✓											(F) picks (L) up; (L) throws toy
28													✓	
29	✓												✓	(L) cries; peers stare; girl tries to give (L) a block; (B) picks (L) up.
30			✓											

none of the other children at water table are talking or interacting

29

1.2

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Activity and Environmental Survey

Cover Sheet

Student Name: Lisa

Date of Observation 2/13/95

Observer Name: NS

Setting: kindergarten classroom

Starting Time: 12:30 Ending Time: 1:10

Starting Activity: water play Ending Activity: block/animal toy area (*)

Overall Number of Peers Present Without Disabilities: @ 22-25 (see Soc. Int. Obs. Form for details)

Overall Number of Peers Present With Disabilities: 0

Number of Adults Present: 3

1:1 Paraprofessional or Assistant Present: [yes] [no] Fatima

Additional Information (e.g., grouping patterns):

ACTIVITY AND ENVIRONMENTAL SURVEY

A. Opportunities for interaction with peers:

(4) Student and peers had opportunities for interactions throughout the entire period.

3 Student and peers had many opportunities to interact during the period but they were somewhat limited.

2 Student worked mostly with adult, but had a few opportunities for interaction with peers.

1 Student spent almost entire session alone or with teacher/paraprofessional.

B. Specific interactions with peers:

4 Student and peers interacted freely during entire period.

3 Student and peers interacted with each other but the duration or frequency of interactions was limited.

2 Student and peers interacted briefly or sporadically during the session.

(1) Student spent almost entire session alone or with the teacher/paraprofessional.

C. General degree and quality of target student's participation in the core activity:

(4) Student was very active in participating in the core activity (initiating involvement).
— but participation in activity did not require any interaction- children played in parallel to each other

3 Student participated in some aspects of the core activity by initiating behaviors and/or responding to others (partial involvement).

2 Student's participation in activity was generally limited to responses to adult or peers (limited involvement).

1 Student showed no or limited participation in the core activity (peripheral involvement).

D. Degree to which peers attempted to involve student in social interaction:

4 Peers attempted to engage student in conversation, play, or activity to the extent possible.

3 Peers solicited student's social involvement (play, conversation) during parts of the activity.

2 Peers briefly and sporadically attempted to socialize with student.

(1) Peers did not approach, interact, or communicate with student.
↳ They would stare at her. Once or twice a child would attempt to give her something (a block or puzzle piece)

REVISED 11/1999

E. Degree to which peers appropriately provided assistance to the student:

4 Peers provided appropriate assistance to the student when needed, and otherwise allowed the student to participate independently.

3 For the most part assistance was appropriate but occasionally it was either too much or not enough.

2 Assistance was provided even when it was not needed, or needed more than it was provided.

(1) Peers did not recognize student's need for assistance, or were inappropriate in responding to student's needs.

F. Ability of peers to accommodate to target student's communication style and skills:

4 Peers consistently used appropriate means to communicate with student (e.g., signs, microphone, gestures, pantomime, cues)

3 Peers occasionally attempted to express themselves to student in ways that recognized student's communication style and ability.

2 Peers were generally aware of students' communication style, but infrequently used effective means to express themselves.

(1) Peers did not attempt to communicate with student in ways that were appropriate.
Peers did not attempt to communicate at all — appropriate or not.

G. To the extent possible, teacher or paraprofessionals:

4 Were very active in promoting interaction between student and peers.

3 Occasionally directed student and peers to approach each other or engage in interaction.

2 Infrequently facilitated interaction between student and peers.

(1) Did not encourage or facilitate interaction even though there were opportunities.
Para worked 1:1 with Lisa or stood back. Most of time, para stood back but children never attempted to initiate & para didn't model.

H. Physical environment (seating arrangements, organization of work/play areas, etc.):

Regular teacher would walk by & smile at Lisa & other children

(4) Desks, seats, or students' positions during activity were arranged to allow free and spontaneous interaction to occur between students.

3 Environment/positioning was arranged to allow interaction to occur between student and some peers, or only in certain areas (e.g., part of lunchroom, one area of classroom)

2 Arrangement of physical environment made it difficult for interaction to occur unless student or peers made active effort to approach one another.

1 Environment or student's positions were arranged so that interactions between student and peers could not readily occur (e.g., traditional classroom rows, separate eating areas).

Revised 11/18/97

at recess they:
all 4 children sitting around table in close proximity to each other

95

girls | boys
Christy

block area:
all kids were sitting on the floor with materials - when Lisa arrived, put her in middle & stop

I. Use, selection, and adaptation of materials and equipment during observed activities:

4 Materials/equipment were available and appropriate (adapted, age appropriate, modified, relevant) so that the student could participate in core activities.

(3) Some materials/equipment were available, but student could not participate in some aspects of activities because of lack of appropriately adapted or modified materials.

2 Few materials/equipment were modified, adapted, or specialized for the student.

1 Appropriate materials/equipment were unavailable, or materials were not adapted for student's participation in activity.

water table was appropriate - but not block area.

J. To what extent was the student involved in the same activities as peers:

(4) Exactly the same activity or subject as other students in the class during the observation (e.g., 100%).

3 Mostly the same activity, but parts of it were noticeably different (e.g., 75%).

2 Partly the same activity, but the student was mostly working on an entirely different subject (e.g., 25%).

1 Activity that the student was involved in was totally different from the rest of the group.

Table 7. Field Note Form

Student: Lisa Observer: NS

Date of Observation: 2/13/95 Time Started: 12:30

Notes:

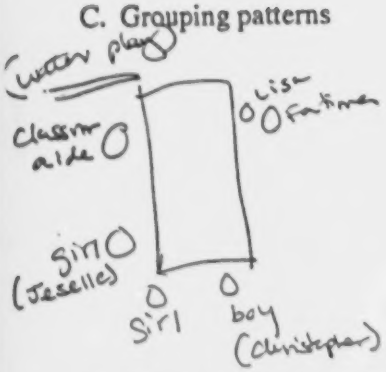
A. Describe Activity

getting ready for center activities/ water play

B. Identify Students

Christopher
Ramri
Jesselle
} water play

C. Grouping patterns



D. Teacher's role in facilitating interaction

—C—

Specific Interactions

Lisa & Fatima (aide) are standing over by water table w/ classm. aide - they begin filling up water table. Other c. are all in circle - t. is giving directions to put books away & get ready for center activities. Kids all stand up to put chairs & books away. One g/1 walks over to water table & stares at L. but no interaction.

3 other c. approach table - all stare - no interaction. Classm aide pours water on L's hands & says "agua" - other c. watch.

after @ 20 mins., F. picks L. up & carries her over to different play area (Block & Animal Center) - L. has a short tantrum - throws animals on floor - yells & cries. F. picks her up & puts her on lap. - L. hits.

After when L. first comes to center - all kids quiet down & stare at her - they continue playing but slower - when she tantrums - they stop playing. F. continues to hold her on lap - kids go back to playing after @ 3 mins. - get loud again & they start throwing blocks & knocking over towers.

F. lets go of Lisa - she stops yelling &

Table 7 continued

starts crying. two boys approach - come very close & look at her - they smile (don't know if they know she is blind)

F. approaches again & holds L's hand to stand up - L. screams & falls to floor. when F. lets go, L. stops crying & rocks back & forth - no kids come over.

79

L. crawls toward F. F. picks her up & carries her out - kids don't notice. No goodbyes.

Date of observation: 2/13/95

Observer: NS

Student: Lisa

I began the school visit by going up to the special education program on the second floor and going into the gym where Denise's class was playing. Lisa was sitting on the floor by herself. I walked in and went over to Denise who was sitting on the floor with another student in her lap, and I said "hello". Denise told me that as soon as Fatima (the assistant teacher) came in, Lisa would go downstairs to the kindergarten. (Fatima is a different assistant this time; the last time I observed, Betty was the assistant teacher who took Lisa down to the kindergarten.)

The kindergarten class is located on the first floor of the building. Fatima and Lisa took the elevator down to the first floor and were in the kindergarten classroom by 12:30. (During my last visit, when Betty took Lisa she went on the stairs. For Lisa to walk down the stairs, it took approximately 5-10 minutes, and she arrived late to the classroom. O.C.: This is something to consider when doing an inservice -- sometimes it is more appropriate to skip teaching a specific skill [in this case it is "stairwalking"] in favor of getting the child into an activity.)

When I entered the classroom, all of the kindergarten children were sitting in a circle on the floor and the teacher was giving them directions to put their books and chairs away to get ready for "center". The kids were not sitting quietly, and the teacher had to repeat herself several times, raising her voice. Lisa and Fatima were

standing off to the side, leaning against one of the toy shelves. (O.C.: I do not know if the class said "hello" when they walked in, but it did not appear that they took much notice of her.) After a few minutes, while the teacher was still trying to get the children to put away their things and get ready to switch activities, Fatima took Lisa over to the water table where they stood while the classroom aide began to fill up the table with water. One girl walked over to them and stood at the other end of the table. The girl stared at Lisa for several minutes, but did not say anything to either Lisa or Fatima. Fatima did not take notice of the girl. (O.C.: A missed opportunity for Fatima to facilitate interaction between the girl and Lisa. Another possible area to discuss during an inservice.) The other children in the classroom were up and around, putting chairs and books away. Then they all came back to the circle area and stood in a group while the teacher assigned them to the different center activities. Center activities included water table, block area, computer, shopping area, arts & crafts, drawing, and reading. The teacher asked who wanted to go to the water table. She asked the children in both English and Spanish. (O.C.: in Spanish, she said something about Lisa -- maybe saying that Lisa would be at the water table also??) Three children raised their hands. One boy was Christopher, a girl named Jaselle, and another girl. They went over to the water table, and took out smocks to put on. Lisa already had her smock on. For a group of children playing at a water table, they were all uncharacteristically quiet. A brief glance around the room showed that except for computer and reading, all of the other children in the other "centers" were active and talking. The noise level in the room was actually

quite high. They put on their smocks without a word and barely looked at each other. When they moved over to the table, they mostly stared at Lisa. Lisa was leaning on the table with her upper arms, and dangling her hands in the water. She was making noises ("ahh") and splashing the water. Christopher took out plastic cups, bottles, and water toys and tossed them in the water, but did not say anything. The children all began playing with the water, pouring and splashing, but not interacting with each other or with Lisa. There was also very limited interaction with the present adults. Fatima mostly looked at Lisa and the classroom aide poured water into the table. At one point, the classroom aide said, "agua" and poured water over the children's hands, including Lisa. The 3 children just looked at Lisa. After a few minutes, Christopher tried to give Lisa a water toy. He put the toy in her hand and Lisa made a noise. Fatima did not say anything. (O.C.: Good attempt on Christopher's part, but he needs reassurance/modeling from adult that he is doing the right thing.) The interaction lasted only for a few seconds. Otherwise, there were no interactions with the children.

After approximately 20 minutes, Fatima moved Lisa away from the water table. She dried off Lisa's hands and changed her shirt. (O.C.: Fatima took off Lisa's shirt in the middle of the classroom. She did have an undershirt on, however it was noticeably inappropriate to do this in front of all of the other children, none of whom would change their clothes in the middle of the room.) Fatima then picked up Lisa and carried her over to the block and toy animal area. A group of 5 boys and girls were playing in the area. Fatima put Lisa on the floor in the middle of the group and smiled at the other

children. The children immediately stopped talking and stared at Lisa. They continued playing with the toys and blocks, but moved much slower because they were looking at Lisa. Fatima sat down in a chair near Lisa. She did not say anything to the other children. Lisa began to cry and then yell. She threw the animal toys. Fatima picked up Lisa and put her on her lap. Lisa began to tantrum more, swinging her arms and hitting Fatima. The other children stopped playing when Lisa had her tantrum and they stared at her. Lisa hit or kicked another child while she was sitting on Fatima's lap, and the child moved away from her. After about 3 minutes, (Lisa was still on Fatima's lap) the children went back to playing as they had before Lisa came over; they began talking loudly and banging blocks. Some of the boys started throwing blocks and knocking over the towers they had built.

Fatima let go of Lisa and put her on the floor. Lisa stopped yelling and started crying (sobbing). Two boys from another area came over to Lisa and sat very close to her. They did not say anything, just smiled and looked at her. Fatima approached Lisa again and tried to pick her up by the hand. Lisa screamed and fell to the floor. When Fatima let go, Lisa would stop crying and begin rocking back and forth. After a few more minutes, Lisa crawled over toward Fatima and Fatima, sitting in a chair, picked Lisa up and put her in her lap. Then Fatima stood up, looked over toward the teacher and nodded, and carried Lisa out of the room. There were no good-byes from Lisa or the other children.

3. Teacher Interviews

Three measures were developed by the project to document, monitor, and assess changes in the students' opportunities for social interaction as well as changes in their social networks and relationships over time. Two of these were administered together as a formal interview with the teacher, conducted at the beginning and end of the school year. The third measure was a checklist which teachers were asked to self-administer on a weekly basis.

Teacher Interview on Social Opportunities. As part of the formal interview with the student's teacher, this measure was developed by the project and administered at the beginning and end of the school year. This measure provided an index of school-based activities and environments, as perceived by the teacher, in which social contact with peers could realistically occur. It was most appropriately used with teachers whose deaf-blind students attended schools that provided access to peers in general education programs (e.g., the "schools-within-schools). The interview consisted of 16 questions regarding the frequency of social opportunities for the student to interact with peers from the general education program (including playground, assemblies, lunchroom, field trips, reverse mainstreaming, etc.). Teachers indicated the frequency of the student's opportunity for interaction with peers on a scale ranging from never to monthly. Responses to items were assigned scores of 0 to 3 (corresponding to never, daily, weekly, or monthly), with higher scores reflecting more frequent opportunities. The Teacher Interview on Social Opportunities is presented in Table 8.

School Peer Network. A second measure, administered as part of the formal teacher interviews, was developed to monitor changes in the student's social relationships from the beginning to the end of the school year. Teachers were asked to list all of the student's classmates and rate, on a scale from 1 to 6, the type of relationship the student with deaf-blindness had with each classmate. Ratings ranged from non-friend/familiar

peer to friend/buddy. This measure provided specific, and, as perceived by the teacher, concise information on the quality of relationships the target student had with all classmates. An example of this measure is presented in Table 9.

Weekly Logs: School Activities Checklist. In addition to the bi-yearly opportunity measure described above, this checklist was developed to monitor the student's weekly participation in activities with nondisabled peers. Teachers were asked to set aside a few minutes at the end of the week to complete the checklist, and would return them to the project staff at the end of a month's period. The checklist consisted of 18 contexts which served to identify if, under what circumstances, and how often the student with deaf-blindness participated in activities with peers. For purposes of data analysis, scores could range from 0 to 18, with higher sums reflecting participation in a greater number of integrated activities. Table 10 shows an example of the Weekly Logs: School Activities Checklist.

[Tables 8, 9, and 10 to follow]

Opportunities for Social Interaction
Teacher Interview

Student: Lorraine School: PS- Informer: Denise
Interviewer: Nancy Date: 11/21/94

Part I (Answered by **ALL** teachers)

Circle the number which best describes the school program this student attends:

(1) The school student attends uses a full inclusion model.

(2) The school student attends has a general education and a special education program within the same building.

(3) The school student attends is only for students in special education programs, and there is a school for students in general education programs within walking distance.

(4) The school student attends is only for students in special education programs, and there are no programs for students in general education within walking distance.

Part II (Answered by **ALL** teachers)

A. During the school day, how often does *(this student)* have the opportunity to:

1. Spend free time with a friend or friends sometime during the school day.

(Daily) her classmates 1-2 Week 1-2 Month Never

2. Receive instruction as part of a group.

(Daily) 1-2 Week 1-2 Month Never

B. So far this year, how often have there been opportunities for *(this student)* to:

3. Attend field trips with peers from same class or school [*informal trips around the community as well as school organized trips*]

(1-2 Month) 1-2 Semester 1-2 Year Never
with own class - not with children from general ed.

4. Attend after-school, extra-curricular, or other programs.

1-2 Month 1-2 Semester 1-2 Year (Never)

4a. Attend after-school, extra-curricular, or other program <u>with same-age peers without disabilities</u>.

(NA) 1-2 Month 1-2 Semester 1-2 Year Never

revised 12/3/93

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5. Which of (*this student's*) community-based activities offers opportunities for social interaction with other people (not from same school or class)?

Activity & Person: teacher doesn't know

STOP: For teachers in self-contained special education buildings, go to Part IV

Part III (Answered **ONLY** by teachers in programs housed within general ed. buildings)

A. During the school day, how often does (*this student*) have the opportunity to:

6. Come to school with siblings or friends from the neighborhood who attend the general education program.

Daily 1-2 Week 1-2 Month (Never)

7. Begin or end the school day in the same physical setting (auditorium, playground, multipurpose room, etc.) with peers from the general education program.

Daily 1-2 Week 1-2 Month (Never)

(NA) 7a. Do they spend time interacting with each other?

[ ] all the time [ ] somewhat [ ] not at all

Comments:

8. Share library, computer center, or any other school facility at the same time with students from the general education program.

(Daily) 1-2 Week 1-2 Month Never

Where: lunchroom – in future teacher plans to do an integrated gym activity after lunch.

8a. If physical sharing takes place, do children interact with each other?

[ ] all the time [X] somewhat [ ] not at all

Comments: "it is difficult because Lorraine sits at the end of the table and there isn't much room (physically)."

9. Have recess when students from the general education program have their recess.

Daily 1-2 Week 1-2 Month (Never) not yet, but Lorraine and classmates go to gym after lunch; may be teacher will get 1st graders to come also.

9a. If student has recess at the same time, do they play together?

NA [ ] all the time [ ] somewhat [ ] not at all

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10. Interact with children from the general education program in the hallways, rest rooms, locker room, etc.
Where: hallways; lunchroom

(Daily) 1-2 Week 1-2 Month Never

11. Attend art, (music), P.E., and other special subjects with peers from the general education program.

Daily (1-2 Week) 1x/week 1-2 Month Never

*program is scheduled to start this week

11a. If child attends, do they interact with each other?
[ ] all the time [ ] somewhat [ ] not at all

12. Have a meal (breakfast, snack, or (lunch)) with same-age peers from the general education program.

(Daily) 1-2 Week 1-2 Month Never

13. Attend academic class(es) in the general education program.

Daily 1-2 Week 1-2 Month (Never)

13a. If student attends, do they interact with each other?
NA [ ] all the time [ ] somewhat [ ] not at all
Comments: _____

14. Spend free time with a friend or friends from the general education program sometime during the school day.
If yes, where: Jr. High peer tutors come into classroom every Monday; teacher is planning on getting 4th graders to come for "free time" - not yet scheduled.

Daily (1-2 Week) 1x/week 1-2 Month Never

15. How often do students from the general education program come to the special education class to be readers, special friends, or teacher's assistants [not necessarily to work with this particular student].
What are their responsibilities? (see above re. 4th graders)

Daily 1-2 Week 1-2 Month (Never)

B. So far this year, how often have there been opportunities for *(this student)* to:

16. Attend field trips with peers from the general education program.

1-2 Month 1-2 Semester 1-2 Year (Never)

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Part IV (Answered by **ALL** teachers)

17. What opportunities or activities are available at school that specifically facilitate interaction between peers?

Assemblies, book fairs, swimming program & holiday parties (visit different classes).

18. Is there anything in particular that you would like to try with your students that might increase social interaction (e.g., cooperative learning; peer tutoring)?

Peer tutoring

19. In addition to what we have talked about, is there anything else you would like to add regarding social interaction?

"...need to get better form of communication for her (Lorraine) – she often cries, bites, screams, & tantrums – & it interferes with people wanting to be with her."

revised 12/3/93

School Peer Network (1.0)

Teacher's Name: Eileen Interviewer: Nancy

Student's Name: Mike Date: 11/14/94

Use the scale below to identify the type of relationship this student has with his or her classmates. List the names of each classmate in the first column and on the line next to each name (the second column), write in the appropriate number corresponding to the scale.

Classmates: (List each by name)	Rating: (1-6)
Frank	3
Danny	3
Kelly	1
Frankie	2
Kyle	6
Nilda	5
Leah	2
Craig	2
Cassie	5
Megan	3
Bradley	1
Tom	2
Sehr	1
Rick	2
Marisa	2
Kerry	4
Paul	2
Jamie	2
Tim	2
Lauren	3
Steve	3
Willi	3
Stephanie	3

Scale:

Familiar Peer/Non-friend

[1] = Peer does not show interest in interacting with student; peer does not approach student for social purposes and may attempt to avoid or ignore student; peer may ridicule student; peer seems awkward when around student.

[2] = Peer may make occasional overtures to student; will acknowledge student's presence such as by greeting student; peer reluctantly interacts with student when asked to do so; peer does not engage in social interaction with student even when group of other children are involved.

Acquaintance

[3] = Peer shows general interest in student; peer approaches and greets student; peer attempts to gain student's attention; peer willingly interacts with student when asked to do so by teacher.

[4] = Peer may occasionally offer to help student or to work together; peer will become involved in an interaction with student when group of other children are involved.

Friend

[5] = Peer actively seeks out student during social ("play") times; student knows peer by name; peer and student enjoy working together; peer volunteers to work with student; student prefers this peer to other classmates

[6] = Peer and student do things together outside of school; peer chooses student to be partner in group activities; student and peer share mutual enjoyment in working or playing together.

H. Mar, N. Sall, & J. Collingwood, (November, 1994). Social Relationships of Children and Adolescents with Deaf-Blindness. Developmental Disabilities Center, St. Luke's Roosevelt Hospital, 212-523-6280.

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Table 10. Weekly Logs: School Activities Checklist

Weekly Log of Activities (School)

Teacher's Name: D. M[redacted] Student's Name: Lisa

School: P.S. [redacted] Date: Jan. 23, 1995

When you see [the student], it refers to the individual student involved in our project. The term "peers" refers to all other students.

Place a check mark (√) next to the most appropriate answer or fill in the blank with your answer for each question.

1. Has [the student] spent any time visiting peers in another class this past week?

   ✓ yes (if yes, where or whose class: Ms. [redacted] – Kindergarten)

   ____ no

2. How many times in the last week did [the student] do the following with peers from a different class?

   1 go to assemblies

   5 use the gym

   ____ use the library

   ____ go to recess or use the playground

   ____ attend afterschool activities (e.g., clubs)

   5 lunchroom

   ____ other, (e.g., field trips) please describe: ____

3. During the last week were there any activities in which [the student] and peers were paired together as partners or buddies?

   ✓ yes (if yes, what: in the K-classroom, 1 student was paired to show Lisa around the classroom.)

   ____ no

4. During the past week, did any mainstreaming activities occur with students in your class?

   ✓ yes (if yes, who was involved and what were the activities: Lisa went to free play in K.)

   ____ no

5. During the past week, did you have any contact with teachers or other staff from the general education program?

   ✓ yes (if yes, what: I spoke to Ms. [redacted] about how Lisa + Missy are doing.)

   ____ no

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Table 10 continued

6. Who has [this student] spent time doing academic work with this past week?

✓ teacher/para (name: Denise, Gloria, Betty, Fatima)
___ peer from own class (name:)
___ peer from different class (name:)
___ alone
___ other, please identify:)

7. Who has [this student] spent free time or recess with this past week?

✓ teacher/para (name: Denise, Betty, Fatima)
✓ peer from own class (name: Khadijah, Lovraine, Gio)
___ peer from different class (name:)
✓ alone
___ other, please identify:)

8. Who has [this student] had lunch with this past week?

✓ teacher/para (name: Denise, Betty, Gloria)
___ peer from own class (name:)
___ peer from different class (name:)
___ alone
___ other, please identify:)

9. Who has [this student] spent time in afterschool activities with (e.g., clubs)?

___ teacher/para (name:)
___ peer from own class (name:)
___ peer from different class (name:)
___ alone
___ other, please identify:)

10. Did [this student] have any chances to choose a partner or peer buddy this past week?

✓ yes (if yes, who: during free play + gym - Lovraine, Gio)
___ no

11. Which activities have you used this past week to increase interaction between students?

✓ cooperative learning
✓ pairing students in small groups
___ pairing [this student] with one other child
___ other, please describe:)

revised 12/3/93

4. Parent Interviews

In addition to conducting interviews with students' teachers, measures were developed to also document, monitor, and assess changes in students' opportunities for social interaction at home and in the community, as well as changes in their social networks as perceived by parents, and changes in their social behaviors and competencies. In all, six measures were used during these interviews. Five of these were administered together as a formal interview with the parent, conducted at the beginning and end of the school year (although not necessarily during the same meeting). The sixth measure was a checklist, similar to the one used with the students' teachers described above, which parents completed during a brief phone conversation on a regular basis with a member of the research staff.

Family Interview on Social Opportunities. A formal measure was developed to assess and monitor parent's perceptions of the general frequency of their child's opportunities to participate in community-based social activities. These included, for example, the number of times during a 3-month period that the child attended a birthday party; went to church or temple; went to the park; slept over at a friend's house; participated in a community event; visited friends; and, had a friend come over to visit. There were 15 questions in all, each with responses ranging from 0 (reflecting that the student never participated in specific activities) to 3 (reflecting that the student participated in the activity 5 or more times). The highest obtainable score was 45. The instrument (as seen in Table 11) was administered at the beginning and end of the academic year.

Scales of Independent Behavior (SIB) and Assessment of Social Competence (ASC). The SIB and ASC, administered during the same interview, were used to obtain general information about the student's social, adaptive, and communication skills. These two measures were also used to monitor changes in the student's skills and abilities as

identified by his or her parents. The ASC was slightly modified by this project to more closely reflect the abilities of the students involved and was also translated into Spanish for several of the families.

Parental Perceptions Interview. In conjunction with the Family Interview on Social Opportunities, a questionnaire was developed to obtain information from parents regarding various aspects of social relationships. Specifically, this structured interview asked parents to describe how their child behaves during social situations; discuss issues regarding their child's friendships and describe how others relate to their child; and, identify school-based and community-based activities and events that promote interaction. This interview, conducted twice during the school year, was qualitatively analyzed for the purpose of guiding project staff in identifying and developing appropriate interventions. The questionnaire is presented in Table 12.

Social Network Analysis. While it is generally believed that the social networks of individuals with severe disabilities, including those with deaf-blindness, are typically smaller than others without disabilities, this project wanted to identify and document the significant persons involved in the students' social lives. This measure was administered to parents at the beginning and end of the school year, and was used to obtain scores for the total number of friends and acquaintances in the child's network, the number of same-age peers regarded as friends, and the number of new social contacts. In addition, this measure provided information on the duration of the student's friendships and the range of the child's social activities. An example of the Social Network Analysis is presented in Table 13.

Weekly Logs: Home Activities Checklist. This checklist was developed to document the child's participation in weekly social activities at home or in the community. The instrument was administered to the parent either in person or during a brief 5-minute telephone conversation with a member of the research staff approximately every other week. It included eight categories of social activities (e.g., friends coming to

visit; going to a friend's house; going to the park; attending an afterschool event; etc.). Parents were asked to identify the activities and frequency of the child's participation during the course of a week. Scores for each of the eight items ranged from 0 ("not at all") to 3 ("more than 5 times"), with a total possible score of 24. Table 14 presents an example of the Weekly Logs: Home Activities Checklist.

[Tables 11, 12, 13, and 14 to follow]

Table 11. Family Interview on Social Opportunities

Opportunities for Social Interaction Survey-II

Parents and Family Interview

Child's Name: Millie. Informant: mother

Date of Interview: 7/14/94 Researcher: FR

Part I

During the **last 3 months**, how often has (*your child*) participated in the following activities?

1. Gone to a friend's birthday party.	Never	1-2 times	3-5 times	5 or more
2. Gone to church or temple.	Never	1-2 times	3-5 times	5 or more
3. Gone to the park.	Never	1-2 times	3-5 times	5 or more
4. Gone to visit relatives.	Never	1-2 times	3-5 times	5 or more
5. Gone to visit friends of the family.	Never	1-2 times	3-5 times	5 or more
6. Slept over at a friend's house.	Never	1-2 times	3-5 times	5 or more
7. Gone to the supermarket.	Never	1-2 times	3-5 times	5 or more
8. Gone to a neighborhood activity (such as a festival or block party)	Never	1-2 times	3-5 times	5 or more
9. Have friends come over to play.	Never	1-2 times	3-5 times	5 or more
10. Gone to a special outing such as a circus or parade.	Never	1-2 times	3-5 times	5 or more
11. Gone to the local hair dresser or barber.	Never	1-2 times	3-5 times	5 or more
12. Spent time at a neighbor's house.	Never	1-2 times	3-5 times	5 or more
13. Gone on routine errands.	Never	1-2 times	3-5 times	5 or more
14. Gone to a restaurant with the family.	Never	1-2 times	3-5 times	5 or more
15. Gone to a local youth center or community organization (scouts; YMCA).	Never	1-2 times	3-5 times	5 or more

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Part II

1. After (*your child*) gets home from school, how does (*he/she*) spend the time?

Sometimes she is tired; eats; goes for a walk after dinner.

2. How does (*your child*) spend (*his/her*) time on the weekends?

Friday night and Saturday morning the family goes to church. They stay at church on saturday for social gatherings.*
Also go to visit family; go to the park; in summer, they go to the beach.

3. Is (*your child*) currently involved in after school or weekend activities provided by a community organization?

[ ] Yes [X] No

If yes, please name _____

4. Are you interested in having (*your child*) participate in after school or weekend activities where children with and without disabilities can be together?

[X] Yes [ ] No [ ] Not Sure

5. Are you aware of any organizations in your community which provide after school or weekend activities for children with and without disabilities together?

[ ] Yes [X] No

If yes, please name Millie's mother is very interested in getting Millie involved in integrated activities or a program where she can be with "regular" kids her age.

* Recently at church one of the leaders told a story about people with disabilities and since then, other children have been saying "hi" to Millie.

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Table 12. Parental Perceptions Interview

Parental Perceptions of Social Interaction

Interview Schedule

Child's Name: Ben Informant: mother

Date of Interview: 6/23/95 Researcher: J.C.

Part I--Friendship Issues:

1. Does (*your child*) usually (*play; hang-out; socialize*) with other kids, or does he/she wander away when other children are around?

inconsistent; most often he will play

if plays with others, What types of things do they do?

dance, planting in the garden, plays musical instruments (anything musically related)

2. Does (*your child'*) have a best friend?

Ray - from school.

if yes, Does that child have a disability? [X] yes [ ] no

How long do you think (*your child*) and ____ will remain friends (*next month; next summer; next school year*)?

until the end of school

3. What do you think are the most important things (*your child*) can get from having a friend?

companionship; someone his own size to rough-house; give & take; everyone needs a friend

4. How do you feel about (*your child's*) friends? (*probe regarding what kinds of friends you would like your child to have*)

Too few of them - would like him to have any kind of friend.

Part II--School Related Issues:

5. During school vacations, what types of things does (*your child*) do? (*probe regarding if he/she visits others; plays at home; goes to a relative's*)

go to camp (to sp. ed); swimming; amusement park; spend time with cousins.

6. What has happened at school to help (*your child*) make friends (*specific activities or events*)?

Reverse mainstreaming; Afterschool program (last year); integrated music class; Language arts group.

7. What other types of activities or events at school can you think of that might help (*your child*) make friends?

Have Ben go to general education inclusion classes more often.

Part III--Community-Related Issues:

8. How do children in the neighborhood interact with (*your child*)?

Not at all -

9. Do (*your child's*) brothers or sisters have friends who are interested in (*him/her*)? (*probe regarding if they play or hang out together*)

— (only child)

if yes, What do these kids do with (*your child*)?

—

10. How do your neighbors and other people in your community interact with (*your child*)?

They say hello; come over to be social.

11. What types of activities do you and your family enjoy in your neighborhood and community?

go to park; watch helicopters; shop; go to movies; go out to eat.

Part IV-- General Issues:

12. Other than what we have discussed, what types of activities would you like to see (*your child*) involved in? (*next summer; next school year; in two years?*)

Anything that involves more peer interaction — Boy Scouts.

13. Do any experiences come to mind as either very positive or very negative that you and (*your child*) have had with other children in the neighborhood, community, or at school?

—

14. What other information can you tell me about (*your child's*) friendships that you feel is important?

Unless there are specifically activities designed to informally integrate children like Ben, these (friendships-chances for developing friendships) will not be much.

Name: Ben D.

Date: 5/9/93

Interviewer: AS

Respondent: mother

Social Network

I. Friends and Acquaintances

1. Who are some of the children _____ knows? Where do they know each other from? How long have they known each other?
2. When do they get together? How often do they get together?
3. When was the last time your child and _____ spent time together and what did they do?

Friends Q.1	Settings Q.1	How long Q.1	When do they get together? Q.2	Frequency Q.2	Last time spent time together Q.3	What did they do? Q.3
Ricky	school	3-more yrs.	school	everyday	WPW	A/E
Leesha	apartment bldg/school	1 yr. or less	morning waiting for bus	every day	WPW	hang out
Charlotte	Sunday school	1 yr. or less	Sundays	weekly	WPW	A/E
Abbywood	apartment bldg	1 yr. or less	mornings - while for bus	daily	WPW	hang out

Totals

4	S= 2 C= 2	1 or less= 3 2-3 yrs= More than 3 yrs.= 1	DS= 2 AS= W= before school: 2	AD= 3* W= 1 M= Y=	WPW= 4* WPM= WPY=	A/E= 2 P= 2 OA=

*almost daily * within past week

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II. Relatives, Service Providers, and Others

4. Has _____recently met anyone new? Who are they? How did theye meet?

5. Other than friend and acquaintances, who else does _____spend time with? What is their relationship and age of this person?

6. What do they do together? When was the last time they got got together?

New people Who are they? Q.4	How did they meet? Q.4	Who else spends time with child? Q.5	Relationship Q.5	Age Q.5	Activity Q.6	Last time they got together Q.6
		Don	Respite worker	@ 30	recreation	weekly
		Francis	Aide	@ 50	"babysits"	weekly
		Samara	cousins	3 yrs old	hang out	weekly
		Sasha		6 yrs. old	↓	↓
		Sabrina		8 yrs. old		

TOTALS

R=	S= C= O=	5	R= 3 SP= 2 N= O=	Younger= 3 Older= Adult= 2	A/E= R/L= 4 O= 1	WPW= 5 WPM= WPY=
SP=						
N=						
O=						

III. New or Favorite Activities

7. What are some of the things _____ enjoys doing? How often does she/he get to do it?

8. Are there things your family does on a regular basis? How often are these things done?

9. Have your done anything new or different with __ during the last month?

Favorite Activities Q.7	Frequency of Activities Q.7	Activity Q.8	Frequency Q.8	New or different Activity Q.9
take walk in [illegible]	weekly			
ride in taxi/bus	↓			
ride on elevator				
[illegible] to music				

Totals

_____	D=	_____	D=	_____
Type	W= 4	Type	W=	Type
A/E=	M=	A/E=	M=	A/E=
R/L= 4	Y=	R/L=	Y=	R/L=
O=		O=		O=

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Name: Minerva Interviewer: Yvette Week beginning: 11-14-94

Directions: Place a checkmark in the appropriate space, use comments section for names of friends, relatives, places visited, or other pertinent information.

During the past week how often has your child:

1. Had friends come over to visit:

___ not at all
X 1-2 times this week
___ 3-5 times this week
___ more than 5 times

Comments:_____

2. Gone to a friend's house to play:

X not at all
___ 1-2 times this week
___ 3-5 times this week
___ more than 5 times

Comments:_____

3. Had relatives come over to visit:

___ not at all
___ 1-2 times this week
X 3-5 times this week
___ more than 5 times

Comments:_____

4. Gone to visit relatives:

___ not at all
___ 1-2 times this week
X 3-5 times this week
___ more than 5 times

Comments:_____

5. Done things in the neighborhood: (church, park, restaurant)

___ not at all
___ 1-2 times this week
X 3-5 times this week
___ more than 5 times

Comments:_____

6. Gone on a very special family outing: (circus, vacation)

___ not at all
X 1-2 times this week
___ 3-5 times this week
___ more than 5 times

Comments:_____

7. Gone on errands with you or someone else: (grocery store, shopping)

___ not at all
___ 1-2 times this week
X 3-5 times this week
___ more than 5 times

Comments:_____

8. Attended an afterschool event: (club, scouts)

X not at all
___ 1-2 times this week
___ 3-5 times this week
___ more than 5 times

Comments:_____

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Harvey H. Mar, Nancy Sall, & Kathryn M. Rowland
Developmental Disabilities Center, St. Luke's/Roosevelt Hospital, 428 W. 59th St., New York, NY 10019

5. Friendship Surveys

Two formal surveys were conducted as a means of gathering information on parents' and teachers' perceptions of friendship. The project was interested in gaining insight into parents' and teachers' attitudes and beliefs about: (a) the relevance and appropriateness of inclusive and integrated programs and experiences; (b) the benefits of participating in integrated activities; (c) the need to expand social opportunities; and, (d) identifying the perceived barriers and responsibilities to increasing social opportunities and experiences for children with deaf-blindness.

Teachers' Perceptions of Friendship. The purpose of this survey was to answer questions about teachers' experiences and perceptions of friendship between students with and without deaf-blindness, and also to identify educators' concerns and needs in facilitating friendship among children. Questionnaires were given to 378 general and special education teachers in the New York metropolitan area, and at conferences in Montana and Colorado. A total of 192 educators participated to the survey (51%). The questionnaire was based on a similar study conducted by Susan Hamre-Nietupski, Jo Hendrickson, John Nietupski, and Gary Sasso at the University of Iowa. The survey was conducted once; however, for those teachers with whom the project was involved on a regular basis (approximately 30), a second survey was conducted at the end of the school year to obtain pre- and post-test scores following a year of intervention. There were three parts to the questionnaire and a section on background information about the school program and teacher's experience.

Part I of the questionnaire consisted of seven categories, or indexes, which were embedded in 24 questions. These indexes included: (1) school environment and setting; (2)benefits of relationships to students with and without disabilities; (3) barriers to developing opportunities and increasing activities; (4) priority and importance of social interaction as an educational goal; (5) responsibility to promote social relationships; (6)

need to expand social opportunities; and, (7) capacity for students with deaf-blindness to develop friendships. Teachers were asked questions using a Likert-type scale with responses ranging from very strongly agree to very strongly disagree. Part II consisted of 12 items in which respondents were asked to identify, using the same Likert scale as in Part I, if they agreed or disagreed in the usefulness of specific methods of facilitating friendship for a student with deaf-blindness. These included, for example, using cooperative learning lessons in the classroom, directly teaching social skills to the student, or creating integrated after-school activities. Part III incorporated a checklist asking teachers to identify what they needed in order to address issues of friendship (e.g., inservice training; additional assistance in the classroom; administrative support; additional preparation time; etc.) as well as two open-ended questions on their particular experiences and perceptions. The questionnaire took about 10 minutes to complete.

Parent Perspectives of Friendship. This survey was designed as a questionnaire similar to the teacher survey. The questionnaire could be administered either through an individual interview with the parent during which they came to the hospital and met with a member of the research staff or completed the questionnaire on their own and mailed it back to the project. Fifty-four families throughout New York State were involved in the survey. Criteria for participating in the study was based on the child's disability, such that the child had concomitant hearing and vision impairments and was within the ages of 3 to 23 years. Families participating in the study represented a diverse range of ethnic, racial, socioeconomic, and religious backgrounds. The survey consisted of two parts which included the questionnaire and a section on background information (providing demographic data on age, home environment, type of school, degree of sensory impairment, and communication information). Together, the two parts took parents about 15 to 20 minutes to complete. The survey was conducted once during the project.

The questionnaire was constructed with 50 closed-ended questions. Respondents were asked whether they strongly agreed, agreed, disagreed, or strongly disagreed to each

item. The fifty items in the questionnaire were grouped into seven indexes which included: (1) communication and sensory impairment; (2) independence and mobility; (3) community issues and concerns; (4) integrated versus self-contained programs; (5) similarities of friendship; (6) social network; and, (7) having friends with disabilities. Scores from all of the questions were compiled and a composite score was derived for each index. Each index comprised between five and nine questionnaire items. The purpose of the survey was to gain insight into parents' beliefs regarding issues of friendship for their children with deaf-blindness.

Examples of these two questionnaires, Teachers' Perceptions of Friendship and Parent Perspectives of Friendship, are presented on the following pages, Tables 15 and 16, respectively.

[Tables 15 and 16 to follow]

Teacher Beliefs: Friendship Between Students

A Questionnaire
for the Social Relationships Project

Nancy Sall
Research Coordinator

DDC-Evans 3
St. Luke's/Roosevelt Hospital
428 West 59th Street
New York, NY 10019

212-523-6230

Table 15 continued

Teacher Beliefs: Friendship Between Students

Please tell us a little bit about you. Fill in the blank or place a check mark (√) next to the most appropriate choices.

1. Your current room number is: 102 (to be used for coding purposes only)

2. Gender:
   ___ Male
   ✓ Female

3. Number of years of teaching experience (please fill in, including this present school year):
   ___ years teaching regular education
   3 years teaching special education

4. Highest degree earned:
   ✓ Bachelors degree
   ___ Masters degree
   ___ Doctorate degree
   ___ Other (please specify): _____

5. Did you complete a formal teacher certification program at a college or university:
   ✓ yes
   ___ no

6. Are you currently working as a:
   ___ Regular education teacher
   ✓ Special education self-contained classroom teacher
   ___ Special education resource teacher
   ___ Other (please specify): _____

7. The age range of students in your class is (circle all that apply):

   0-2 3-4 5 6 7 8 9 (10) (11) (12) 13 14 15 16 17 18-21

8. What type of disabilities do the students in your class have (check all that apply):

   ___ No disabilities
   ___ Visual impairments
   ✓ Hearing impairments
   ✓ Mild/moderate mental retardation
   ___ Severe/profound mental retardation
   ___ Multiple disabilities
   ___ Don't know
   ___ Other (specify): _____

9. How many adults are assigned to your classroom during the day (including you): 1c

10. How many students are in your class: 10

Now please turn the page to complete the survey. ⇨

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Table 15 continued

Teacher Beliefs: Friendship Between Students

Note: The following statements pertain to friendships between students who are deaf-blind and their same-age peers without disabilities. "Students who are deaf-blind" refers to students who have some degree of visual and hearing impairment (deaf-blindness) and students who, in addition to their sensory impairments, may have cognitive disabilities.

Part I

Mark each statement in the left margin according to how much you agree or disagree with it. Write in a +1, +2, +3, or -1, -2, -3 depending upon how you feel about each statement.

+1: Agree
+2: Strongly Agree
+3: Very Strongly Agree

-1: Disagree
-2: Strongly Disagree
-3: Very Strongly Disagree

Please be sure to indicate your choice for each item, and write in your number with + or -.

Example:
+3 1. Teaching children is an important profession.
-3 2. Teachers have an easy job.
+2 3. The beginning of the school year is very exciting for students.

+1 1. Friendships between students who are deaf-blind and their nondisabled peers can develop as easily as friendships between any two children without disabilities.

-2 2. When with a student who is deaf-blind, peers without disabilities prefer playing rather than caretaking (or helping) activities.

-1 3. Children who are deaf-blind enjoy the same activities as children without disabilities.

+1 4. Friendships between children who are deaf-blind and their nondisabled peers are more likely to develop at school than in the community.

-3 5. A deaf-blind child's physical presence in a regular class (without teacher support) is all that is needed to promote the development of friendships.

-2 6. Friendships are more likely to develop during recess than classroom activities.

-2 7. A deaf-blind student is more likely to make friends in a general education school than a special school for children with similar disabilities.

+1 8. A student mainstreamed half day in a regular class has the same chances of making friends as does a student who is in regular classes all day.

Please continue Part I on the next page... ☞

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Table 15 continued

Continue to use the same scale from the previous page to finish this section, indicating how strongly you agree (+1, +2, +3) or disagree (-1, -2, -3) with each statement.

+1 9. Promoting interactions at a young age (e.g., during preschool years) is an important part of developing long-term friendships.

+2 10. Increasing social interactions is a critical educational goal for deaf-blind students.

+1 11. Expanding the number of friends or acquaintances of a child who is deaf-blind will increase his or her ability to succeed as an adult in the community.

+1 12. Adults should facilitate friendships between deaf-blind children and nondisabled peers.

+2 13. Assistance is needed to promote friendships between students who are deaf-blind and their peers without disabilities.

+2 14. Teachers should take primary responsibility for facilitating these friendships.

-1 15. It is the school's responsibility (not youth organizations such as the "Y") to develop integrated after-school activities for students with and without disabilities.

+1 16. Nondisabled peers should learn to use the communication device or mode that a deaf-blind child uses (e.g., sign language; augmentative device).

+1 17. A deaf-blind student needs a great deal of assistance from an adult to be able to participate in social activities with other children.

-1 18. Even with support and assistance, barriers to friendships between students with and without deaf-blindness can not be overcome.

+1 19. Interaction must occur on a regular basis (more than once a week) for friendships to develop between children with and without deaf-blindness.

-1 20. A deaf-blind student in a regular class interferes with nondisabled students' learning.

+1 21. Social interaction between a deaf-blind student and peers without disabilities will help increase the student's language and cognitive skills.

-1 22. A deaf-blind student learns more socially appropriate behavior from nondisabled peers than from peers with similar disabilities.

+1 23. Friendships between students with and without disabilities are beneficial to the students without disabilities.

+1 24. These friendships are beneficial to students with deaf-blindness.

Please go to Part II on the next page... ☞

Table 15 continued

Part II

Read the following scenario and finish the statement by marking how strongly you agree or disagree in the left margin.

Use the same scale as before: **+1 Agree** **+2 Strongly Agree** **+3 Very Strongly Agree**
-1 Disagree **-2 Strongly Disagree** **-3 Very Strongly Disagree**

You are the teacher of an 11 year old girl who is deaf-blind and has mild cognitive impairments. She communicates using a combination of some verbal and some sign language. She is socially isolated from other children in the class.

As her teacher, you are most likely to facilitate friendships by...

+1 1. presenting information on her disabilities to other students in the school.

+1 2. using cooperative learning lessons in the classroom.

+1 3. teaching nondisabled students to be peer tutors.

+1 4. creating integrated school activities in which this student and her nondisabled peers can work or play together.

+1 5. creating integrated after-school activities.

+1 6. informing the girl's parents about community recreational activities (e.g., Girl Scouts).

+1 7. encouraging the girl's parents to create new social opportunities in their neighborhood.

+1 8. organizing a "Circle of Friends" or a group of peers to befriend this girl.

+1 9. directly teaching social skills to this student.

+1 10. seeking out additional training for yourself through inservice or university programs.

-1 11. collaborating with other teachers in the school.

+1 12. modifying the curriculum and/or instructional strategies to promote interaction.

Please go to Part III on the next page... ☞

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Table 15 continued

Part III

Place a check mark (√) next to the items you think would be most effective. Check all that apply.

1. What would enable you to facilitate friendships and social interactions between students with severe disabilities and students without disabilities?

- ✓ (a) Attend a training program on cooperative learning.
- ✓ (b) Attend a training program on peer tutoring or peer mediation.
- ___ (c) Attend a training program on augmentative communication.
- ✓ (d) Receive support from the school administration.
- ✓ (e) Receive additional assistance in the classroom from a consultant.
- ✓ (f) Receive additional assistance in the classroom from a paraprofessional.
- ✓ (g) Participate in team meetings with regular and special education teachers together.
- ✓ (h) Team teach with a regular and special education teacher together in the same classroom.
- ✓ (i) Learn how to adapt the curriculum and modify materials to meet individual student needs.
- ✓ (j) Set aside or receive additional "prep" time to meet with teachers or modify materials.

For the last items, please write in your answers to the following questions or statements.

2. Have you ever had a situation in which you needed to facilitate interaction between a child with disabilities and another child without disabilities? Describe the situation and what you did: Once I took my class out to the playground and there were regular ed. children playing, once they saw my class they began moving away. I explained to them that the children wouldn't hurt them and that they were very nice children and they have feeling too. After while they began talki and playing with my class.

3. What else can be done, either by teachers, parents, or community organizations to help promote friendships between children with and without disabilities: To have more intergration programs in school, home community. Also Parents workshop with parents of nondisabled children along with parents of disabled children to address awareness of their presence in school home and community.

Please use the back of this paper for additional comments or if you need more room.

☆ *Thank you very much! We appreciate your assistance!* ☆

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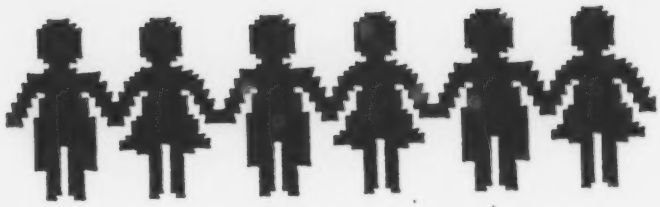
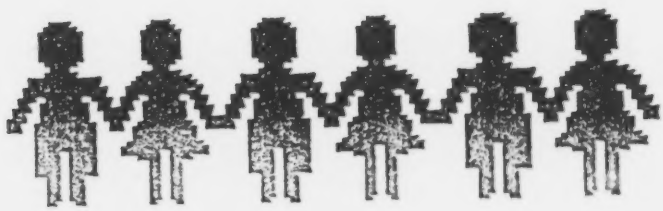


Parent Survey on Social Relationships

Social Relationships of Children and Adolescents with Deaf-Blindness Research Project

Developmental Disabilities Center, Antenucci - 9
St. Luke's/Roosevelt Hospital Center
1000 Tenth Avenue
New York, NY 10019
212-523-6280



Parent Survey on Social Relationships

Background Information

Tell us a little bit about you, your family, and your child. Fill in the blank or place a check mark next to the best choices. All questions refer to your child with vision and hearing impairments.

Your name LINDA & STEVEN [redacted] Your child's name: HEATHER

Child's age: 9 DOB: 2/26/86 Today's date: 10/27/95

I. General Information

1. Your child is a: ✓ girl ___ boy

2. How many other children do you have in your family? 3

3. What are their ages? 10 - 4 - 3

4. Who currently lives with you in your home? EVERY ONE

5. What is the name or number of the school your child attends? [redacted] SCHOOL FOR THE BLIND

6. What type of school is this:
   - ✓ Special school only for children with disabilities
   - ___ Special class in a regular public school
   - ___ Regular school with special services
   - ___ Regular school with no special services
   - ___ Residential school

7. Is your child involved in any mainstream or integrated programs (with other children who are not disabled) at school:
   ___ Yes ✓ No

   If yes, how often:
   - ___ Once in a while, not too often
   - ___ Several times a week
   - ___ Everyday

8. What is the primary language used in your home:
   - ✓ English
   - ___ Spanish
   - ___ Sign Language
   - ___ Other (please describe): ___

9. Do you have a job outside of your home:
   ✓ Yes ✓ Full time ✓ Part time
   ___ No

II. Information About Your Child

1. Describe your child's hearing loss (please complete for each ear):

Left Ear:

____ None
____ Mild
____ Moderate
__✓__ Severe or Totally Deaf
____ Don't know

Right Ear:

____ None
____ Mild
____ Moderate
__✓__ Severe or Totally Deaf
____ Don't know

2. Did your child have a hearing loss at birth:

__✓__ Yes
____ No
____ Don't know

3. Type of hearing loss, if known:

____ Conductive
____ Sensorineural

4. Does your child use the following:

__✓__ Hearing aid(s)
____ FM unit
____ Other (specify): _____

5. Your child's vision loss is (please describe as best you can):

____ Partially Sighted
__✓__ Legally Blind
__✓__ Light Perception
__✓__ Total Blindness
____ Don't know

6. Did your child have a vision loss at birth:

__✓__ Yes ____ No ____ Don't know

7. Your child's vision loss is in:

__✓__ Both eyes *or* ____ Left eye only ____ Right eye only

8. Does your child use the following (check all that apply):

____ Corrective lenses (eyeglasses; contact lens)
____ Magnifiers/Scopes
____ Electronic devices (specify): _____
____ Other (specify): _____

9. Has your child been described as having any of the following (check all that apply):

____ Autism
____ Behavior or Emotional Problem (describe: _____)
__✓__ Physical or Motor Disability
__✓__ Multiple Disabilities
____ Health Problems (describe: _____)
__✓__ Learning Disability
____ Mental Retardation (degree: _____)
__✓__ Speech or Language Impairment
____ Other (specify: _____)
____ No Other Disability

10. What is the cause of your child's hearing and vision impairment? Please be as specific as possible: PREMATURE

11. What is your child's medical diagnosis? (For example, Cerebral Palsy, Congenital Rubella, Usher Syndrome, Prematurity, CHARGE Syndrome). List all diagnosis that are relevant: PREMATURITY

12. Please describe how your child communicates with you and others. How does your child ask for things he or she wants? (For example, a child might use sign language; point; speak; make sounds; use gestures; use picture cues.) Describe your child's communication as best as you can: SIGN LANGUAGE

13. Does your child use any of the following:
____ Cane
____ Trailing
____ Sighted guide
____ Wheelchair
____ Walker
____ Other: _____

14. Please describe the help your child needs in getting from one place to another:
__✓__ Always needs someone to help
____ Can move around familiar places, but needs help most other times
____ Can usually get around by himself or herself

Parent Survey on Social Relationships (1.5g)

Read each statement carefully. Please indicate in the space provided how much you agree or disagree with the statement. Write in a +1, +2, -1, or -2 depending upon how you feel about each statement.

+1: Agree
+2: Very Strongly Agree
-1: Disagree
-2: Very Strongly Disagree

ANSWER EACH STATEMENT AND USE A "+" or "-" WITH EACH NUMBER.

Example: +2 1. Children like to play.
-2 2. Children never cry.

+2 1. My child needs help from an adult in order to play with friends.

+1 2. If other children learned more about hearing and vision problems, they would play more with my child.

-1 3. My child learns to behave better around other children who don't have disabilities.

-1 4. Because my child is deaf-blind, he or she has fewer friends than other children.

-2 5. My child could make friends more easily in a regular classroom than in a special education classroom.

-1 6. My community is not able to develop appropriate recreational activities for children who are deaf-blind.

+1 7. Another child is likely to be afraid the first time he or she sees my child.

+2 8. My child would enjoy a special summer camp for children with disabilities more than a regular summer camp.

-2 9. My child can make friends without extra help from others.

+2 10. Community programs (clubs, scouts, teen groups) might not welcome my child like they do other children.

+1 11. My child would prefer being alone than playing games like checkers.

-1 12. My child would participate in community programs if they were more accessible.

-1 13. My child would probably not enjoy staying overnight at a friend's house as much as other children.

Table 16 continued

Use the same scale as on the other page.
Indicate if you **AGREE (+1, +2)** or **DISAGREE (-1, -2)** with each statement.

+2 14. Moving to a new community is harder for families who have a deaf-blind child than for other families.

+1 15. I am satisfied with the number of friends my child has.

+2 16. Programs in my community (such as the church, synagogue, YMCA, etc.) are always open to my family.

-1 17. When my child becomes an adult, most people would not be interested in being friends with him or her.

+2 18. It is hard for other children to understand the way my child communicates.

-1 19. My community is responsible for developing activities for my child to be with other children.

+2 20. A child who is deaf-blind is more likely to develop long lasting friendships at a special school than a neighborhood school.

-2 21. Most hobbies, such as collecting baseball cards, playing an instrument, or painting, would not be meaningful for my child.

+1 22. It makes sense to me that other children have more friends than my child.

-2 23. My child would do better if he or she were in a regular class and not a special class.

+1 24. My child is more likely to be understood by adults than by other children.

+2 25. Neighborhood children are likely to play with each other more than with my child.

+1 26. As my child gets older, he or she would need a lot of help to keep friends.

+1-1 27. If my child had to choose a partner, it would be another child with disabilities.

-1 28. I worry more than other parents about my child getting hurt when playing.

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Table 16 continued

Use the same scale as on the other page.
Indicate if you **AGREE (+1, +2)** or **DISAGREE (-1, -2)** with each statement.

-2 29. After getting to know my child, other children would not focus on his or her disability.

+2 30. My child has more in common with other children who are deaf-blind.

+2 31. I cannot be as actively involved in the community as other parents.

+1 32. In five years, my child's friends will be the same as he or she has today.

+1 33. It is important that we have the phone numbers of my child's friends in school.

+1 34. If other children knew how to communicate with my child, he or she would probably have more friends.

+2 35. On weekends my child is likely to have fewer visitors than other children.

+2 36. Even if other children in the neighborhood invited my child to play, my child would not be very interested.

+1 -1 37. My child would prefer to be around other children who are not deaf-blind.

-2 38. If the school developed a weekend program for my child, it would be best that only children with disabilities are involved.

+1 39. My child would rather spend time with adults than with other children.

+2 40. It would be impossible for my child to play basketball with the neighborhood children.

-1 41. It is easier to spend time with other families who also have a child with deaf-blindness.

+1 42. My child prefers to be best friends with other children who have disabilities.

-1 43. All social activities at school should allow children with and without disabilities to be together.

-2 44. I feel that my neighbors keep away because they don't understand my child.

Table 16 continued

Use the same scale as on the other page.
Indicate if you **AGREE (+1, +2)** or **DISAGREE (-1, -2)** with each statement.

+1 45. The regular boy scouts or girl scouts would probably not welcome my child.

+2 46. A good roommate for my child would be someone else who is deaf-blind.

+2 47. My child's limited ability to move around independently prevents him or her from going hiking with other children.

-2 48. My child spends more time alone than other children of the same age.

-1 49. My child has fewer friends than most other children of his or her age.

+1 50. In a park where there are children with and without disabilities, it would be the children with disabilities who would most likely play with my child.

Please turn to the last page and place a check mark next to your selection.

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Thank you for completing the questionnaire and participating in our survey!

As a token of our appreciation, we would like to offer you either a paid one-year subscription to *Parenting Magazine*, or a paid one-year membership to the *National Family Association for Deaf-Blind (NFADB).* Please check your preference in the space below and mail the entire questionnaire back to us in the envelope provided:

[_____] Please sign me up for a paid one-year subscription to *Parenting Magazine.*

or

[✓] Please sign me up for a paid one-year membership to the *National Family Association for Deaf-Blind (NFADB).*

III. Interventions

A. Identification of Interventions and Procedures

A program of intervention was designed for each student on the project. The purpose of the intervention program was to enable teachers and parents to better identify social needs of children with dual sensory impairments, increase awareness about the students' social competence, develop opportunities for integrated social activities in schools and communities, and promote expansion of students' social networks through increased social opportunities.

Each program involved a broad set of activities which were provided consistently throughout the academic year. Interventions consisted of three components, or forms. One or another form of intervention, as described below, was provided at least once every two weeks in the schools. Project staff members, including three educational specialists and an educational psychologist, designed and provided the interventions. The forms of intervention varied and were adjusted to meet the individual situations; thus, in some cases more of one form was provided than another.

B. Forms of Intervention Activities

1. Team Meetings

One component of interventions involved team meetings of parents, teachers, teacher assistants, related-service providers, and school or program administrators. At the beginning of the school year, an initial meeting was held to discuss concerns regarding

the student's social opportunities, identify social needs, and establish intervention goals. Team meetings were regularly held during the school year to review progress and goals, discuss barriers or problems, and share information about particular issues pertaining to social relationships. These meetings served as a forum for providing general support to the school and administrative staff regarding social inclusion, such as coordinating an inclusive afterschool program, supplying resources and materials (e.g., videotapes; articles; statewide conference information; etc.), and identifying new opportunities for social interaction (e.g., working with general education staff to develop integrated activities). In addition, topics for inservice training were also identified during these meetings, which were later conducted with school staff.

2. Educator Support

The second component involved four levels of intervention: (a) providing informational resources such as articles, books, "how-to" materials, videotapes of teaching strategies, etc. This level of intervention was designed to increase teachers' knowledge and awareness of educational techniques to increase social opportunities for deaf-blind students; (b) promoting use of adapted materials, equipment, and environments. Interventions were designed to help teachers understand how to assist students with deaf-blindness gain access to social activities (e.g., developing tactile game boards, using braille labels, adapting game rules, enlarging materials, using appropriate assistive devices, changing seating arrangements, etc.); (c) providing inservice training on social integration within schools. Several inservice training sessions were delivered to increase teachers' exposure to best educational practices in cooperative learning, grouping strategies, peer support or mediation, school-based opportunities to increase social access, communication behaviors, and adapting materials for students with sensory impairments; (d) modeling of techniques to promote interaction between the student with deaf-

blindness and peers. Methods to improve communication with the student, structure activities to increase peer involvement, appropriately assist the student, engage the student in play with other children, etc., were demonstrated during social activities. The purpose of modeling was to provide direct instruction to increase participation of the deaf-blind student in academic and recreational activities.

3. Parent Support

The third component of intervention targeted parents and families of children with deaf-blindness. Intervention activities consisted of: (a) providing information resources pertaining to family-oriented activities, recreational events, sibling issues, summer camp, advocacy, etc., to increase parents' awareness and knowledge of community-based social programs and opportunities; (b) supporting parents' efforts to involve their children in community-based activities such as summer camps for typical children, Sunday school, playgrounds, organized outings, etc. Support was provided in the form of meetings and discussions, advocacy, and outreach to agencies. These interventions were designed to help families identify and reduce barriers to inclusion of their children in community events; and (c) networking with other parents through meetings, workshops, and conferences in which concerns on social relationships and opportunities were addressed. Representatives of regional parent groups were enlisted to provide technical assistance. The purpose of this level of intervention was to increase contact of parents to other parents to promote self- advocacy.

IV. General Results

Results of this series of interrelated studies on social relationships are presented below as follows: (a) summary of changes in assessment scores for three individual

students participating in the project are described in relation to interventions conducted during the project period; (b) results from the questionnaire administered to parents throughout New York State on their perceptions of friendship; and, (c) a case study of one student with deaf-blindness in an inclusive school. In addition, there are several additional studies which are currently in the process of being analyzed and reported. These are described under dissemination activities in Section V.

A. Social Opportunities of Three Students

This study examined social opportunities and relationships of three children with deaf-blindness, Victor, Tiffany, and Eric. Intervention programs were implemented to increase the social integration of these children , ages 7 to 10 years, and their peers in school and community activities. The interventions involved various forms of educator and parent support, which were provided over an academic year. Data was collected using the instruments described above in Section II.

1. Results of Data Analysis

Changes over the intervention period in each of three children's social opportunities, social activities, and social networks can be seen in Table 17 on the following page. Changes of social opportunity were reflected by the Teacher Interview of Social Opportunities and the Family Interview of Social Opportunities. Changes in the frequencies of actual social activities involving the student were documented by the School Activities Checklist and the Home Activities Checklist. The Social Network Analysis provided information about the persons with whom the students had established social relationships.

Changes in Students' Social Opportunities, Activities, and Networks

Measure [a]	Student					
	Victor		Tiffany		Eric	
	1st admin	2nd admin	1st admin	2nd admin	1st admin	2nd admin
Teacher Interview on Social Opportunities	10	22	21	32	43	44
Family Interview on Social Opportunities	25	36	25	28	27	29
School Activities Checklist [b]	7	10	7	8	13	14
Home Activities Checklist [b]	4	10	6	9	7	9
Social Network Analysis						
Friends/Acquaintances	9	7	4	5	4	5
Same-age peers	5	2	1	3	4	5
New members [c]	--	1	--	2	--	4

Note. [a] Refer to Methods for a description of each measure. [b] Numbers represent averages (rounded off) of actual social activities in a week-long period. [c] Numbers refer to new members of the network from the first to the second administration.

Social Opportunities. Scores on the two measures of social opportunity reflect perceptions and awareness of educators and parents of those events and contexts within and outside of the school which are socially accessible to the child. Table 17 shows that for two students, Victor and Tiffany, there were substantial increases in perceived school-based social opportunities between administrations of the Teacher Interview on Social Opportunities. For Victor, increased opportunities for interaction with nondisabled peers were perceived in after-school activities, shared library or computer room activities, and recess. In the first administration of this measure, Victor's teacher perceived that these specific opportunities for interaction were not available. By the second administration, daily social integration opportunities were perceived to be available. Similarly, for Tiffany, daily opportunities for interaction with nondisabled peers during recess, at lunch, and in various school environments (library, auditorium, gym) were perceived to be available by the end of the year. Because Eric was in a regular fourth-grade class, he had many opportunities for interaction with peers over the year. Thus, his scores on the Teacher Interview on Social Opportunities were high on both administrations.

On the Family Interview on Social Opportunities, there was a notable increase in home- and community-based integrated activities for Victor, in part as a result of more frequent family outings (e.g., visiting neighbors, participating in routine errands) and an increased effort to have friends visit Victor at his home. Tiffany and Eric showed slight but positive changes on this measure.

Social Activities. The School Activities Checklist and Home Activities Checklist documented the actual social activities in which the student had been involved with peers during a given week-long period. Table 2 shows the average number of weekly activities during the first quarter (first administration) and the last quarter (second administration) of the data collection period. Increases were apparent for each student in both school-based and home- or community-based activities. For Victor, gains from the first to last quarter in school-based activities were accounted for primarily by the increased

participation of nondisabled peers during recess, after-school activities, lunch, and academic activities. At home, increases were attributable to more frequent visits with friends arranged by Victor's parents. Consistency in visiting friends also accounted for gains in Tiffany's social activities at home. These visits usually occurred in the hallways of the apartment building in which Tiffany lived, where other children also gathered. Eric's average of weekly activities involving peers in both school and home showed slight gains.

Social Networks. The Social Network Analysis, administered at the beginning and end of the intervention period, was developed to track the consistency of a student's friends, frequency of contact, most recent activity with persons in the network, new acquaintances, and environments (e.g., school, park, church, etc.) of social activities. Noteworthy about these data are the relatively few friends that each student was purported to have made. Victor was reported to have nine "friends", but only five were peers of the same age, and three of the five were no longer identified as friends by the end of the year. One new member entered Victor's social network, but he was an adult who volunteered to take Victor on occasional recreational outings. Tiffany's friends were mostly neighbors within the apartment building, including friends of her siblings. Although most of those identified were not of the same age as Tiffany, she did establish consistent relationships with two children her age who lived in the same building by the end of the school year. For neither Victor nor Tiffany were peers from integrated school activities identified as friends. Eric's data would suggest that there were insignificant changes in his social network between administrations of the measure. However, three of the four individuals identified as "friends" at the beginning of Eric's fourth-grade year had limited contact in specific milieus (neighborhood, church), and only one had known Eric for more than one year. By the end of the year, four schoolmates of the same age had been identified as friends, each of whom had contacts with Eric in typical leisure activities outside of school (e.g., swimming lessons, birthday party).

2. Discussion

Although in this study, it was not possible to determine whether and to what extent interventions were directly responsible for the reported increases in students' social opportunities and activities, results generally support the notion that broad-based intervention programs can serve to facilitate both the identification of, and students' involvement in, an increased number of integrated social activities in the school and the community. This was most evident with respect to two of the children, Victor and Tiffany, whose opportunities for social interaction outside of specialized instructional environments had been initially regarded by their teachers and parents as being limited. That more social opportunities were perceived to be available to these students by the end of the year is particularly important. It suggests that by changing awareness and knowledge of educators through frequent supportive interventions (dissemination of informational resources, collaborative team meetings, modeling, inservice education, etc.), they might be better prepared to view academic and social routines of the typical schoolday in terms of their potential for enhancing the social involvement of students.

Changing social opportunities and activities, however, appeared to have little impact upon the students' social networks per se. Despite substantial increases in Victor's social opportunities and activities, for instance, the number of his friends and acquaintances actually decreased over the same period. Further, that the relationships of all three students were so transient reinforces concerns expressed by parents that meaningful peer relationships are difficult both to establish and maintain for children who are deaf-blind (Ford, 1993; Giangreco et al., 1991).

The nature of these difficulties is not well understood, and research is needed to examine how patterns in the formation of a normal dyadic relationship may differ if one member has dual sensory impairments. Several barriers, from the level of peer

interactions (e.g., inability to communicate effectively) to the level of community access (e.g., lack of recreational programs), are likely to impede the development of friendships. Undoubtedly, placement in a specialized instructional environment, as opposed to a general education setting, limits the natural opportunities for interaction between a child with disabilities and his or her typical peers. In such instances, as with Victor and Tiffany, social activities (e.g., after-school computer group, reverse mainstreaming) must often be contrived to compensate for students' segregation from nondisabled peers. But even daily contact with same-age peers in a regular classroom environment, as was Eric's situation, may not be a sufficient condition. Interventions directed toward educators, families, and peers may need to be further supplemented by more formal and intensive measures, such as the establishment of support networks whose members actively promote the long-term maintenance of meaningful relationships for a given individual. Programs like the McGill Action Planning System (Vandercook, York, & Forest, 1989), may be especially effective for children who have other severe disabilities in addition to deaf-blindness. Such approaches can provide children with access to a consistent social community in which deeper bonds between members might develop over time in more natural forms.

Indeed, critical to the enhancement of social opportunities for the children in this study was the formal and informal collaboration among general and special educators, teacher assistants, parents, administrators, and peers. Seldom over the intervention period could the critical issues of social interaction and relationship, which so frequently arose for each student, be cleanly separated from other issues unique to deaf-blindness. In Eric's case, for example, team decisions, usually made with difficulty, were routinely required to determine: most effective use of his FM unit to hear the teacher as well as classroom discussion; effective strategies that the special education aide could employ to assist Eric while promoting interaction during small-group learning activities; the extent of classmates' responsibilities to learn and apply appropriate mobility techniques during

free time; how to meaningfully involve him in sports activities without disrupting the tempo of other participants; and whether brailled music might serve to increase his participation in the choir. Through collaboration, problem-solving strategies could be discussed from the perspective of specialists familiar with issues of sensory impairment, as well as educators whose concerns also included academic and social integration.

Finally, the data from the measures focused on school-based versus home- and community-based activities were somewhat autonomous in that, for each child, there was little consistency or similarity across these contexts in either the nature of social activities or the partners with whom activities were shared. The implication is that, regardless of whether a student attends a neighborhood school (like Eric) or is bused to a different community (like Victor and Tiffany), carryover effects of interventions between school and home may not readily occur. As such, programmatic supports in which interventions are provided and interrelated across community and school are likely to be required to help form and nurture ongoing social relationships of children with deaf-blindness. Most of the existing research in this area has occurred within educational arenas. Future research might shift its emphasis to address these critical concerns in communities, which are the ultimate contexts in which social integration must occur.

B. Parent Survey

The purpose of this survey was to gain insight into parents' beliefs regarding issues of friendship for their children with deaf-blindness. The survey was designed as a questionnaire which could be administered either through an individual interview or through the mail. This method was selected because the nature of the study required a flexible approach which could include parent respondents who did not live in the metropolitan area and who were not able to come in to the hospital for an individual interview.

1. Participants

Fifty-four families throughout New York State were involved in the survey. Criteria for participating in the study was based on the child's disability, such that the child had concomitant hearing and vision impairments and was within the ages of 3 to 23 years. Families participating in the study represented a diverse range of ethnic, racial, socioeconomic, and religious backgrounds. Parents were identified through various procedures. The majority of parents were known to the researchers through an on-going study on social relationships of children with deaf-blindness. Parents were also contacted through an advocacy organization working with families of children who are deaf-blind, and some of the families were contacted directly through their child's school.

The mean age of the children whose parents participated in the study was 11.4 years. Approximately 65% of the children attended a specialized school program (residential, special school, or home school) and 35% attended a program within a regular school (special education class or general education class). Thirty-three percent of the children were identified as having a mild or moderate hearing loss; forty-three percent were identified as having a severe or profound loss; and, twenty-three percent were not identified as having a specific loss or their parents did not know the degree of hearing loss. Thirty-seven percent of the children were known to be totally blind or to have only light perception; fifty-nine percent were identified as being partially sighted or legally blind; and, four percent of the parents responding did not know the degree of their child's vision loss. Almost 75% of the children were identified as having another disability, such as mental retardation or physical disability.

2. Data Collection and Analysis

Parents participated in the survey either by coming to the hospital center for an individual interview with a member of the research staff or by completing a mailed questionnaire. Each interview at the hospital center lasted approximately 60 minutes. For parents living outside the metropolitan area, a questionnaire was mailed with a postage-paid return envelope. These parents were asked to complete the questionnaire and return it to the research staff. The questionnaire took parents about 20 minutes to complete.

The questionnaire was constructed with 50 closed-ended questions. Respondents were asked whether they strongly agreed, agreed, disagreed, or strongly disagreed to each item. The fifty items in the questionnaire were grouped within seven categories, or indexes. The indexes included: (1) Communication and Sensory Impairment; (2) Independence and Mobility; (3) Community Issues and Concerns; (4) Integrated Versus Self-Contained Programs; (5) Similarities of Friendship; (6) Social Network; and, (7) Having Friends with Disabilities.

3. Results of Survey

Listed below are examples of questions that parents responded to, followed by the general responses with percentage of agreement or disagreement that parents assigned to the particular item.

- Do parents think their child has fewer friends because he or she is deaf-blind?
(74% agree)

- Do parents feel other children would play more with their child if they knew more about deaf-blindness?
(74% agree)

• Do parents believe their child's limitations in mobility prevents them from going hiking with other children?
(69% agree)

• Do parents feel it would be impossible for their child to play basketball with neighborhood children?
(59% agree)

• Is it believed that moving to a new community is harder for families who have a deaf-blind child than for other families?
(81% agree)

• Do parents think their child would do better if he or she were in a regular class and not a special class?
(66% disagree)

• Do parents feel a regular class placement would help their child make friends more easily?
(68% disagree)

• Do parents believe that hobbies, such as collecting baseball cards, playing an instrument, or painting, are meaningful for their child?
(56% agree)

• Do parents feel that neighborhood children are likely to play with each other more than with their child?

(85% agree)

• Do parents think their child would prefer as a best friend another person who is deaf-blind?

(70% disagree)

4. Discussion

The preliminary results of this survey indicate that parents of children with deaf-blindness are concerned about issues of friendship. While all components of friendship are important to consider, this survey has revealed that certain factors are perceived to more clearly impact upon the development and maintenance of friendship than others. A child's social network, communication and sensory abilities, and the community's awareness of and availability to individuals with deaf-blindness have been identified by parents as those categories of friendship with which they are most concerned and/or most affect their child's development of friendships and social relationships.

Further data analysis is needed, and is currently being conducted, to more specifically look at the different factors affecting friendships as well as to identify what the relationship is between age, degree of disability, and school setting on the development of friendships.

C. Case Study

Joseph is twelve years old and a sixth grader in his community school. Joseph, who is deaf-blind, has been described by his parents and teachers as having near average academic abilities but immature social behaviors with associated problems in his social relations. Joseph participates in all school activities with his peers. However his social

interactions during these activities are often limited. Aside from telling jokes to his classmates, Joseph typically does not initiate interaction with his peers.

1. General Demographics and Background Information

There are approximately 900 students with deaf-blindness registered under the federal child count program in New York State. The majority of these students attend specialized programs for children with disabilities. Twenty four students with deaf-blindness are identified as attending regular classes (versus special class, separate school, residential school, etc.). However, there are only eight students statewide who are known to have as their primary educational program a fully inclusive, regular classroom. Joseph was one of the first students with deaf-blindness in New York State to attend his general education neighborhood school.

Medical and Educational History. Joseph was diagnosed during infancy as having retinal vascular aplasia which resulted in total blindness bilaterally. A sloping moderate to severe bilateral sensori-neural hearing loss was not identified until he was three and a half years old. The etiology of Joseph's hearing loss is still unknown. He uses a cane to ambulate independently, reads braille, and wears bilateral hearing aids with an FM unit for amplification in the classroom. Joseph communicates expressively and receptively through spoken language.

As an infant and toddler Joseph received early intervention and vision services at home. His first school experience was an integrated preschool program for children with and without visual impairments. At age four and a half, with the help and support of early advocacy from the New York State Commission for the Blind, Joseph began the regular education kindergarten program with his same-age peers at his local school. As he advanced through the primary grades, his parents and teachers became concerned about his academic and social progress. At the end of third grade, it was decided that

Joseph would be retained for a year due to his immature social skills. He repeated third grade with some mild improvement in his social behaviors. However, the school personnel and Joseph's parents continued to be concerned about his progress,. His family began to waver about their decision to keep Joseph in a general education setting. The school similarly was not confident in their abilities to provide for Joseph's comprehensive educational needs. An independent psycho-educational evaluation was conducted and a recommendation was made for a highly structured, small group learning environment such as those offered at specialized schools for the blind or deaf-blind. In response to these concerns, Joseph's mother contacted the American Foundation for the Blind (AFB) regarding possible support and placement options for his school program.

During this time, the Social Relationships of Children and Adolescents with Deaf-Blindness project, based at the Developmental Disabilities Center of St. Luke's/Roosevelt Hospital Center, was beginning to conduct research in several schools. Through AFB, Joseph's mother was informed of the social relationships research project. She met with project staff to discuss Joseph's school situation and to identify strategies by which the project could provide support. The project offered support to Joseph, his family, and educators if the decision was made by his educational team that Joseph would continue to attend his community school. Subsequently, the team decided that Joseph would enroll in the fourth grade of his school.

Joseph's educational program is designed to accommodate his educational and social needs through a combination of classroom-based and individual instruction. He currently spends the majority of his school day with his peers. Specialized instruction takes place in the resource room three times per week where he works with a special education teacher either individually or in a small group on writing, reading, comprehension and problem solving skills. Joseph also receives orientation and mobility instruction three times per week for trailing and cane use, and vision services daily in the

morning before school. In addition to the regular physical education class he attends with his peers, Joseph also participates in adaptive physical education once a week.

Family Involvement and Support. Joseph lives at home with his mother, father, and older sister of two years in Pleasantville, NY. Pleasantville is a small town located in a rural/suburban setting in Eastern Long Island, approximately 80 miles east of New York City. The families living in this town represent a wide range of socioeconomic groups, but are mostly middle income.

Joseph's mother, an accountant, and father, a lawyer, have always been very involved in the community. His mother was elected as a Trustee to the local Pleasantville School Board in 1993 and will serve as the President of the School Board for the 1995-96 school year. She also volunteers at the school once a week. In general, Joseph's parents have made a strong commitment to creating opportunities which enable him to socially interact with peers his age. In addition to his inclusive education program, Joseph attends the same Sunday School as his sister and classmates, and participates in afterschool swimming and chorus. Even though Joseph's parents are satisfied with these programs, they have also expressed frustration at the lack of integrated community activities available to him that are not affiliated with school.

Joseph's parents have expressed their concern and desire that he develop interests in activities that will bring him closer to his peers outside of school-based situations. They would also like him to get involved in hobbies and activities that he can do on his own, such as fishing.

2. Educational Program

The Pleasantville School District includes the Pine Street School for primary grades and the Bay Avenue School for upper elementary and middle school students. High school students attend a regional program in a neighboring town. The Bay Avenue

School, which Joseph currently attends, serves approximately 650 students in grades four through nine. Of these, approximately 50 students (less than 10%) are enrolled in special education. The majority of the student body is of European American ethnicity (93%), with a small minority of African American, Hispanic, Asian, and Native American students. Approximately 7% of the families who have a child enrolled in the Pleasantville Schools are recipients of AFDC.

Including Joseph, there were 24 students in his fifth grade class at the Bay Avenue School. This is an average class size for the school, as the typical student/teacher ratio is identified as 24:1. When factoring in the presence of teacher aides who work during specific periods in the classrooms, the ratio is 12:1. The per pupil expenditure is $8900, however, the cost for Joseph's program is $86,000.

Like most school districts in New York, the Pleasantville Schools typically have contracted with the Board of Cooperative Educational Services (BOCES), a private consortium, to provide specialized educational services to students with disabilities. While the Pleasantville Schools continue to obtain educational services for some of their students with disabilities through BOCES, the district is interested in, and makes an effort at, bringing students back into the general education system. There is a student two grades ahead of Joseph who has cerebral palsy and another student in a grade behind Joseph who has Down syndrome. In all, there are now five students with disabilities (less than 1% of the student body) who attend general educational programs in this school. Joseph is the only student with deaf-blindness in the school system.

Special Services. Each year, an assistant teacher assigned to Joseph works with him and the general education classroom teacher. It is the assistant teacher's responsibility to adapt materials and provide support to Joseph. Yet, the assistant teacher also works with other students in the classroom, and on occasion conducts large group or whole class lessons while the classroom teacher or a peer works directly with Joseph.

The current assistant teacher, who has been with Joseph for two years, is certified in elementary education, but not special education.

Joseph also receives support services from other members of his interdisciplinary team, including: small group sessions with the resource room teacher for daily 25-minute lessons; individual braille instruction for 45-minutes every morning before school; orientation and mobility instruction three times during the week at school as well as one hour of private instruction at home; and speech therapy, both individual and small group, for two weekly sessions. Other than these services, Joseph participates in the general classroom schedule, including reading, language arts and spelling, gym, math, social studies, science, health, and computer.

Assistive technology and adapted materials play a large role in enabling Joseph to complete his schoolwork. He independently uses a brailler in the classroom, a specialized computer equipped with a speech synthesizer, a talking calculator, a talking dictionary, and brailled books and maps. Many of the tactile materials he uses are adapted by his Braille instructor.

3. Factors Related to Successful Outcomes

Joseph's program is now considered extremely successful in that his academic and social achievement is qualitatively better than it was from kindergarten through third grade. During his first few years in school, and especially at the time of his retention in third grade, the relationship between the school and family became very strained and it was difficult to recognize the many positive accomplishments and outcomes.

However, the past three years have proven otherwise. Several key factors can be attributed to the successful development and maintenance of Joseph's inclusion at the Bay Avenue School. His parents and school staff have worked very hard to make sure that Joseph's educational program meets his needs and furthermore, that he is considered an

integral member of his school. Even during those occasions when the parent-school relationship has been challenged, neither "side" has lost sight of Joseph's best interests. The general components that have ensured the success of Joseph's program include consistent administrative support, willingness of teachers to adapt their teaching and classroom environments, acceptance by his peers, and of course, Joseph's own interest and desire. These are described in detail as follows:

Administrative Support. A significant factor contributing to Joseph's successful educational program has been the commitment of his school principal. The principal uses a "hands-on" approach and has worked closely with Joseph, his parents, and educators since Joseph first entered the school as a kindergarten student. Over the years he has come to believe that the best placement for Joseph is his regular school, given the proper supports and accommodations. Although Joseph has now entered the middle school with a different principal, the elementary school principal, who knows him so well, continues to be involved in his program and works closely with his educators, parents, and consultants.

The principal elicits suggestions from the staff as well as outside specialists regarding various issues and problems. These recommendations have assisted the principal in making important decisions, both major and minor, regarding necessary changes in the delivery of services. For example, in an effort to accommodate Joseph's needs and reduce the amount of time he is away from his classmates, Joseph receives braille instruction in the morning before his classmates arrive and school starts. Joseph also works in the resource room during the classroom "independent work" period while his peers are similarly working individually or in small groups.

The principal works with consultants and private instructors to identify needed equipment and adaptations which promote Joseph's learning and participation. For example, the school recently purchased an auditory scanner which allows Joseph to use the same reading materials as his peers, saving valuable time previously spent brailling

the text. In addition, upon switching to a new school building, in an effort to make the building more accessible to Joseph, the principal determined that it would be beneficial to braille all of the classroom door signs indicating the room number and teacher's name as it appeared in the written format. This not only made traveling the hallways an easier and independent action for Joseph, but raised the awareness of other students, teaching them that having signs and written material available in braille is necessary for someone who is blind.

For the past several years, the administration has "hand-picked" teachers and some of Joseph's classmates in an effort to create a more receptive social and learning environment. A handful of students whom the teacher identifies as being friendly and working well with Joseph are likely to be selected as his classmates for the coming year, thus guaranteeing a group of students who know and understand him, and who can help to ease his transition into a new classroom environment. Likewise, the principal has selected classroom teachers who have shown a willingness to explore new teaching strategies and to work collaboratively with other members of an interdisciplinary team, the implications of which help to ensure that the integrity of Joseph's program be maintained from year to year.

Adaptations in Teaching and Classroom Structures. Joseph's teachers have proven to be an important key factor in the success of his program over the past few years. His teachers have been prepared to work collaboratively with outside consultants such as the research project and as members of a comprehensive educational team with his vision instructor, orientation and mobility instructor, speech therapist, and other specialists. Joseph's fourth grade teacher described it this way: "[Initially I thought] my classroom would be like Grand Central Station -- but now I find the team planning we've received from St. Luke's [Social Relationships Project] and from the resource people has been such a feeling of community -- a feeling of togetherness...[and] I think the kids feel it in the class." Working as members of a team, Joseph's teachers have been able to listen

to suggestions, adapt their teaching styles and activities, and physically accommodate Joseph in their classrooms. For example, critical to the success of Joseph's inclusion in classroom activities has been his physical presence in the room and the location of his desk in relation to his peers and the teacher. His teachers have learned to carefully organize the seating arrangements, through trial and error, to find which desk location best encourages the use of his residual hearing and maximizes his opportunities for peer interaction. His classroom teachers (used to working alone in their room, as most teachers do) have also learned to work closely with the assistant teacher. Furthermore, while the assistant teacher's primary responsibility is to provide support to Joseph, she has mastered the technique of knowing when he needs adult help and when to physically step away, giving him greater independence and more opportunity to work with his peers. Joseph's other support staff and therapists (e.g., orientation and mobility instructor, speech therapist) have taken a flexible approach regarding the manner in which they provide services so that Joseph does not miss valuable time with his peers. The team has worked carefully to design a schedule that allows him to be with the class for the majority of the day. For some of the periods during which he is pulled, he may attend a specialized activity with a small group of peers versus always having individualized instruction (e.g., two or three students for speech-language sessions).

In both the fourth and fifth grades, Joseph's teachers were been willing to try new teaching strategies in an effort to increase his participation and accommodate his needs. His teachers used cooperative learning and peer tutoring activities. They also involved (and sometimes relied on) his peers to "problem-solve" certain issues regarding his participation in classroom and school activities. For example, in the fourth grade a few of Joseph's classmates noticed that during chorus, while the other students were singing, Joseph either sat or stood alone. The students mentioned this to their classroom teacher, who in turn called a group meeting so that everyone could work together to identify a solution to the problem. The students decided to take active roles in making sure that

Joseph was able to participate; one student helped braille the music sheets so he could follow along and another suggested rehearsing with him during recess so he would be familiar with the material. Joseph's fourth grade teacher credits the use of these "peer-planning" sessions with helping to bring Joseph out of isolation and more into the community of the class. In retrospect, this teacher noted that peer-planning strategies were one of the more fundamental actions she did in the beginning of the year which served to help set the tone and break down potential barriers.

Peers' Attitudes and Acceptance. "It was kind of different [the first time I met Joseph because] I never met someone who was blind. I never met someone who has a disability." "I knew you had to speak loudly so he could hear you." "I was scared because I didn't know how I'd handle it when I first met him, but then it felt good when I knew I could be friends with him."

Toward the end of the fourth grade, a group of peers were interviewed by the Social Relationships Project specifically to gain insight into their relationships with, and acceptance of, Joseph. They described their initial thoughts upon first learning of their classmate who was deaf-blind. During this interview, Joseph's peers also said that the general education fourth grade program was the correct, if not the only, placement for Joseph, and that as a matter of course he should move along to the fifth grade with them. They said the Bay Street School was good for him because he would be with people he knew and would learn more important things for the future; and it was also good for them to "get used to other people". They were asked if there was anything they did that Joseph could not do, and while the researchers were thinking within a large scale framework such as in terms of life goals, the students were thinking rather concretely -- one boy replied "rollerblading" and yet after a minute or so he said Joseph could even do that if they helped him the right way.

Since the fourth grade, concomitant with his teachers' increased use of peer problem-solving and peer tutoring, Joseph's classmates have learned themselves how to

provide support and assistance in ways that encourage his participation and increase his independence. While they no longer treat him like a "baby", which was a major concern in previous grades, the majority of his peers continue to be overly helpful and provide assistance even when it is not truly necessary.

Each year it seems a few of Joseph's classmates have taken an interest in him, have accepted him, befriended him, and have chosen to work and play with him. As an example, last year one of his classmates took it upon himself to build an "adapted" tactile tic-tac-toe board at home and bring it into school so he and Joseph could play the game together during recess. Joseph's classmates have learned to communicate effectively with him, and they have also learned to be patient with him. They recognize and understand his disabilities. At times Joseph may seem a bit peculiar, such as when he sings to himself or engages in unusual and repetitive actions, yet, his peers accept that as a part of who he is and do not dwell upon what others may see as only his strange behaviors.

Joseph's Role in Belonging. Joseph's personality is such that the other children and his teachers genuinely like him and enjoy spending time with him. He is a pleasant boy, and for the most part, he is easy to be around. He has a good sense of humor and takes pleasure in making others laugh either by telling a joke or a making a quick-witted comment. For example, his teacher noted that one day at the beginning of the school year she told the class to stop what they were doing and to "look" at her, after which Joseph called out, "I can't look at you -- I'm blind" and then laughed with his classmates.

Joseph's character is one which is also willing to try new things. During gym class he has played volleyball with his classmates as the designated server, has roller-skated with physical support from a peer on either side, and he has also participated in the group Mexican Hat dance and the school Field Day activities. Whereas other boys his age might not choose to spend time with girls, Joseph does not seem to have a preference one way or the other. (This is especially favorable since girls seem more interested in being with him during recess than the boys, who are off running around the playground.)

Joseph's mother has stated that he doesn't have a "best friend" and is inclined to interact more with adults than peers. At times he socially isolates himself from others. For example, Joseph seems to not enjoy or prefer being in a very active or noisy group situations, such as during lunch in the cafeteria. When in these situations, he turns off his hearing aids to eliminate the noise which is uncomfortable, and is content sitting quietly by himself. His classmates understand and respect Joseph's desire to be alone during this time, and have noted that sometimes "he just needs his privacy". Similarly, there are times during the day when Joseph's peers leave him alone, such as when they have games they want to play, for example sports during recess, without disrupting their own natural tempo. Although Joseph is capable of doing many things independently, he often does not assert himself. His mother once noted that he sat all afternoon at the kitchen table waiting for his snack after school, but did not ask for it until she brought up the subject.

When Joseph is frustrated or tired, he tends to engage in socially inappropriate or self-stimulatory behaviors such as crying, hand flapping, eye poking, or talking to himself. His teachers, as well as his classmates, have noticed that these behaviors have been decreasing over the past year in part because of the support his classmates have provided. When asked what one of Joseph's greatest changes has been during the school year, his classmates replied that he has learned is how to overcome his frustrations.

4. Challenges and Long-Term Issues

Over the past two years Joseph has developed a friendship with at least one boy in his class that has lasted for the duration of a school year and slightly beyond. As noted throughout the years, more than the boys, the girls in his class have chosen to spend time with him during "free" periods of the day such as recess. Some of these girls have remained friends with him over a period of two or three years. Although Joseph does not initiate the development of these friendships, he is receptive when someone takes an

interest in him. (The outcome, however, is that the relationship lasts only for as long as the peer continues to make the effort.) In a comparison of Joseph's beginning- and end-of-year social networks, it was noted that the number of classmates defined as "friends" by his fifth grade teacher jumped from three at the beginning to nine by the end of the year. However, despite these positive interactions and experiences, it is still interesting to note that the quality of Joseph's friendships are not as deep or long-lasting as one would hope. Aside from the occasional birthday party, Joseph has rarely been invited to someone's house without his sister or parent as an escort.

When Joseph is involved in social conversations with peers, including those few peers who are very familiar and patient with him, the impact of his dual sensory impairment is evident. Since he is unable to pick up on the visual cues of facial expressions and gestures, he often misses the subtle nuances of group interactions. A warranted concern is that as a result, his peers sometimes might simply find it easier not to include him -- especially as they get older and social issues become more complex (such as boy-girl concerns and other adolescent interests and problems).

Learning Outcomes. Joseph is described as a "B" student and has consistently maintained an average academic record in school. However, as the material in the upper grades becomes more complex, there is a concern that he will have difficulty keeping pace with his classmates. It takes him longer to complete some assignments, and furthermore some grade-level concepts are difficult to grasp given that he works in braille (e.g., his teacher has wondered how to braille a problem in long division). The school has attempted to solve this issue through the use of a laptop computer with adaptive devices for blind users, as well as by allowing him to use a talking calculator for math.

While it is impossible to predict Joseph's academic and social achievement in the coming years, the commitment and support displayed thus far by his educational team serves as a positive model of how an inclusive program can successfully meet the comprehensive needs of a student who is deaf-blind. All members of his team, including

the administration, educational staff, parents, and children should be commended on their hard work and firm determination that the Bay Avenue School is the best place for Joseph.

V. Dissemination

The major dissemination products and activities are presented in Tables 18 and 19 on the following pages. In addition, there are several activities which are currently in progress. These include data analysis and preparation of a paper on the teacher survey, revision and submission of the parent survey paper to an educational journal, development of a manual for parents and educators, and preparation of a manuscript on research methodology which will also be submitted to a professional journal.

Table 18 describes the seminars, workshops, and inservice programs on social relationships of students with deaf-blindness that have been presented over the course of the project period. Target audiences participating in the various workshops are also described. Table 19 summarizes the products of this project, including: an article recently submitted to the Journal of Visual Impairment and Blindness; transcripts of videotape interviews; handouts for educators; and, a comprehensive bibliography on social relationships of students with deaf-blindness. Several of these products are included in the appendix.

Table 18. Seminars, Workshops, and Inservice Training Programs

Presentations at National Meetings and Conferences

1. Social Relationships of Children and Adolescents with Deaf-Blindness. (October, 1992). Poster presented at the annual Project Directors' Meeting, Washington, DC.

   This poster session provided information on identifying barriers, creating social opportunities, and enhancing relationships of children and adolescents with deaf-blindness. Approximately 75 persons from the meeting attended the display.

2. Research in Social Relationships. (October, 1993). Poster presented at the annual Project Directors' Meeting, Washington, DC.

   This poster session provided information on research methodology of social relationships. Approximately 75 persons from the meeting attended the display.

3. Sall, N., Mar, H.H., & Milian-Perrone, M. (November, 1993). Social Relationships of Children and Adolescents with Deaf-Blindness. Paper presented at the Association for Persons with Severe Disabilities Annual Conference, Chicago.

   This presentation was part of the research strand on social relationships. The paper addressed multiple levels of research, from assessment of social skills and individual behaviors to systems level impact on the development of opportunities for social interaction. Audience members, approximately 20, mostly included professionals interested in research.

4. Research in Social Relationships. (November, 1994). Poster presented at the annual Project Directors' Meeting, Washington, DC.

   A specific research framework was presented during this poster session. Approximately 75 persons from the meeting attended the display.

5. H.H.Mar. (November, 1994). Assessment of Communication and Social Interaction of Children with Dual Sensory Impairments in Inclusive Settings. Paper presented at the American Speech-Hearing Association meeting, New Orleans.

   This paper addressed issues of assessment regarding communicative competence and social skills of children with deaf-blindness in inclusive school settings. Approximately 40 people attended the presentation.

6. Sall, N., Mar, H.H., & Collingwood, J. (November, 1994). Facilitating Social Interaction and Relationships Between Students with Dual Sensory Impairment and Their Peers. Paper presented at the Association for Persons with Severe Disabilities Annual Conference, Atlanta.

   This paper presented the multiple issues affecting the development of relationships between students with deaf-blindness and their peers, and included specific information on the educators' role in facilitating interaction. Approximately 30 people, including teachers, paraprofessionals, and parents attended the presentation.

7. Sall, N. (November, 1995). Friendships of Children with Deaf-Blindness: Parent Perspectives and Experiences. Paper presented at the Association for Persons with Severe Disabilities Annual Conference, San Francisco.

   This paper presented information from a survey conducted with 54 parents throughout New York State on various issues affecting their child's social relationships. Target audience members, approximately 20, included parents and educators.

Professional Seminars and Conferences

1. Social Relationships of Children and Adolescents with Deaf-Blindness: Perspectives of Parents and Teachers. (May 6, 1993). Poster presented at the Inclusive Schools and Communities for Children and Youth Conference, The

University of the State of New York and The State Education Department, Albany, NY.

This poster addressed various issues impacting the of social relationships of children and adolescents in the New York metropolitan area. Strategies for educators to promote interaction between their students with disabilities and peers were also presented Approximately 75 teachers, assistant teachers, administrators, and parents attended the presentation.

2. Sall, N. (April, 1994). Research on Social Relationships of Children and Youth with Deaf-Blindness. Paper presented at the Consortium Working Conference on Social Relationships of Children and Youth with Diverse Abilities, Syracuse University, Syracuse, NY.

   Five interdependent levels of research were described as unique components to the development of an integrated framework. The paper further addressed the impact of this framework on the study of social relationships of children with deaf-blindness. Approximately 50 educational researchers, consultants, advisors, and university teachers attended the conference.

3. Edwards, G., Mar, H.H., Merendino, B., Rowland, K., & Sall, N. (May, 1994). One Boy's Story: Social Interactions and Social Relationships of Students who are Deaf-Blind and their Peers. Presentation at the Inclusive Schools and Communities for Children and Youth Conference, The University of the State of New York and The State Education Department, New York, NY.

   A case report was presented describing the successful inclusion program of a ten year old boy with deaf-blindness in a regular elementary school. Participating in the presentation were the boy's teacher and principal. Approximately 20 educators, parents, and educational consultants attended the presentation.

4. Mar, H.H. (June, 1995). Case Report: Mike's Inclusive Education Program. Case report presented at the San Francisco State University Task Force on Inclusion of Students with Deaf-Blindness, San Francisco.

   This case study presented an example of a successful inclusive education program of a twelve year old boy with deaf-blindness and his nondisabled peers. Approximately 25 professionals participated in the meeting.

5. Mar, H.H. (July, 1994). Psychological Views of Deafblindness. Presentation at the 18th Annual Kephart Special Education Symposia, Vail, CO.

   This presentation addressed issues pertaining to the psychological and social development of deaf-blindness. Emphasis was on the roles of social relationships and interaction on a child's social and emotional development. Approximately 30 to 40 special educators were involved.

6. Milian-Perrone, M., & Sall, N. (July, 1994). Strategies to Promote Social Interactions in Inclusive Settings. Presentation at the 18th Annual Kephart Special Education Symposia, Vail, CO.

   This presentation included specific strategies for educators interested in facilitating interaction for students with deaf-blindness, such as adapting materials, structuring activities, use of peer tutoring and buddy systems, cooperative learning, etc. Approximately 30 to 40 special educators were involved.

7. Mar, H.H., and Sall, N. (September, 1994). Enhancing Social Relationships of Students who are Deaf-Blind and their Peers. Conference for the Montana Deaf-Blind Project, Office of Public Instruction, Helena, MT..

   This two-day conference addressed a wide range of issues impacting the social relationships and friendships of persons with deaf-blindness, including reducing communication barriers, adapting materials, restructuring classroom activities, identifying social needs, building social networks, building parent-professional

partnerships, and increasing social opportunities for students with deaf-blindness and multiple disabilities. Between 30 to 40 teachers, parents, therapists, and related personnel participated in the conference.

Regional Inservice Training Programs and Workshops

1. Social Relationships of Children and Adolescents with Deaf-Blindness. (December 3, 1992) Presentation to the New York City Board of Education Task Force on Inclusion.
2. Strategies to Increase Opportunities and Promote Interaction. (April 20, 1993). Inservice training program for teachers and paraprofessionals at Public School 721, Staten Island, NY.
3. Facilitating Instruction and Cooperative Learning Groups for Students with Dual Sensory Impairments. (May 11, 1993). Inservice training program for teachers and paraprofessionals at Public School 138/33, New York, NY.
4. First Steps in Facilitating Social Interaction. (June 8, 1993). Inservice training program for teachers and paraprofessionals at Public School 138/30, New York, NY.
5. Facilitating Interaction Between Students who are Deaf-Blind and Their Peers at School. (March 6, 1994). Presentation at the Annual Staff Development Conference for Special Educators, Board of Education, New York, NY.
6. Facilitating Friendships Between Students who are Deaf-Blind and Their Peers at School. (March 9, 1994). Lecture for Multiple Handicap Teacher Preparation Program at Hunter College, New York, NY.
7. Adapting Materials for Students who are Deaf-Blind. (March 14, 1994). Inservice training program for teachers and paraprofessionals at Public School 138/48, New York, NY.

8. Educational Issues of Social Relationships. (June, 13, 1994). Inservice training program for teachers and paraprofessionals at Public School 721, Staten Island, NY.
9. Social Interaction and the Development of Friendship in Children with Deaf-Blindness. (December 1, 1994). Lecture for Early Childhood Program, New York University, NY.
10. Conference on Social Relationships of Children with Deaf-Blindness. (December 15, 1995). Conference for parents and educators co-sponsored by St. Luke's/Roosevelt Hospital and Hunter College, New York, NY.

Table 19. List of Products and Materials

1. Mar, H.H., Sall, N., & Milian-Perrone, M. (March 1993). Social relationships of children and adolescents with deaf-blindness. TASH Newsletter, 19 (3), 9.

   A series of children's books are reviewed for their relevance to social relationships and friendships of children with deaf-blindness.

2. Mar, H.H., Sall, N., Rowland, K., & Milian-Perrone, M. (1994). Notes for Educators Working with Students who are Deaf-Blind. (Available from the Developmental Disabilities Center, St. Luke's/Roosevelt Hospital, 1000 Tenth Avenue, New York, NY 10019.)

   A series of four reference sheets for educators: (1) The Role of the Teacher in Facilitating Interaction; (2) Adapting Classroom Materials & Activities; (3) Grouping Strategies to Increase Interaction; and, (4) Cooperative Learning Strategies.

3. Mar, H.H., & Sall, N. (1995). Enhancing social opportunities and relationships of children who are deaf-blind. Journal of Visual Impairment and Blindness, 89, 280-286.

   Article presents information on social opportunities and relationships of children with deaf-blindness. Educational interventions are described.

4. Mar, H.H., & Sall, N. (1995). Bibliography on Friendship, Social Interaction, and Children with Deaf-Blindness. (Available from the Developmental Disabilities Center, St. Luke's/Roosevelt Hospital, 1000 Tenth Avenue, New York, NY 10019.)

   Includes a list of references on various topics of concern regarding friendship and social relationships, such as: inclusion of children with disabilities in general education; children's concepts of friendship; social development; peer and teacher perceptions of friendship; and, instructional strategies to foster interaction.

5. Mar, H.H., & Sall, N. (1995). Case Study: Mike's Educational Program. (Available from the Developmental Disabilities Center, St. Luke's/Roosevelt Hospital, 1000 Tenth Avenue, New York, NY 10019.)

A case report describes the inclusive education program for a ten year old boy with deaf-blindness. The report details factors which contributed to the success of this program, including administrative support, teamwork, social accommodation, and peer problem solving.

6. Interviews with Parents, Peers, Teachers, and Individuals with Deaf-Blindness. (Available Spring, 1996 from the Developmental Disabilities Center, St. Luke's/Roosevelt Hospital, 1000 Tenth Avenue, New York, NY 10019.)

Transcripts of videotape interviews will be available for dissemination. Interviews include: two parents describing their experiences and perspectives of their child's opportunities for developing social relationships; general education peers involved in an inclusive education program; general education 4th grade teacher of a student in inclusive education; and, three interviews conducted with young adults who are deaf-blind.

7. Proceedings of Conference on Social Relationships of Children with Deaf-Blindness. (Available Spring, 1996 from the Developmental Disabilities Center, St. Luke's/Roosevelt Hospital, 1000 Tenth Avenue, New York, NY 10019.)

Transcripts of the conference will be available for dissemination. Conference highlights include: a parent panel and discussion of experiences in creating opportunities for children with deaf-blindness; issues affecting teenagers growing up in Deaf culture; and, strategies to support friendships in school and community environments.

Appendix:

- Notes for Educators Working With Students Who Are Deaf-Blind
- Bibliography on Friendship, Social Interaction, and Children with Deaf-Blindness

NOTES FOR EDUCATORS WORKING WITH STUDENTS WHO ARE DEAF-BLIND:

The Role of the Teacher in Facilitating Interaction
Adapting Classroom Materials & Activities
Grouping Strategies to Increase Interaction
Cooperative Learning Strategies

Developmental Disabilities Center
St. Luke's/Roosevelt Hospital Center
Antenucci Building, 432 W. 58th Street
New York, NY 10019

212-523-6280

A product of the Social Relationships of Children and Adolescents with Deaf-Blindness research project (funded by Grant #H025R2004 from the United States Department of Education, Office of Special Education Programs).

NOTES FOR EDUCATORS WORKING WITH STUDENTS WHO ARE DEAF-BLIND:
The Role of the Teacher in Facilitating Interaction

1. **Increase Proximity**: While placing students together in the same room does not guarantee that social interaction will occur, physical proximity is the first step in facilitating awareness of others and promoting interaction between children.

2. **Identify Opportunities for Interaction**: For students in a self-contained special education classroom, natural opportunities for interaction are readily available within the school setting (e.g., recess on the playground; lunchroom; assemblies). New opportunities can also be created to facilitate continued interaction (e.g., special education teacher making arrangements with a general education teacher for an integrated classroom activity such as music, reading, or science). The teacher can begin by identifying *all* of the possible opportunities that exist during the school day. Next, work out a plan to make use of these opportunities regularly, starting with one or two and increasing from there.
   Example of a plan includes: (a) speak with a teacher from the general education program to create integrated activities during recess; (b) introduce your student who is deaf-blind to other children on the playground; and, (c) invite those same children to participate in a project with students in your class.

3. **Structure Activities**: The teacher can increase proximity and interaction between students by structuring activities in which students work together (versus alone) and share materials (versus each having their own).
   Examples include: (a) cooperative learning techniques; and (b) buddy systems.

4. **Model Appropriate Communicative Behaviors**: Students who are deaf-blind may communicate with the aid of adaptive equipment and/or in ways that may be unfamiliar. The teacher can provide peers with information or guidance about how the student communicates. By watching the teacher communicate with the student who is deaf-blind, peers can learn appropriate ways of communicating. It is important to remember that peers will model what they see the teacher doing in this new situation.

5. **Adapt Environment and Materials**: The teacher can create an environment that encourages participation and interaction. This includes adapting materials for the student who is deaf-blind as well as adapting activities [see handout: Adapting Classroom Materials].
   Factors to consider include: (a) identifying activities that encourage cooperation versus competition; (b) selecting age appropriate materials; (c) selecting materials that are tactually rich (versus materials that are non-tactual); and, (d) emphasizing the role of adult as facilitator of social interaction between students.

6. **Increase Enjoyable and Preferred Activities**: Observe students to get a sense for the type of activities that they enjoy and create opportunities during the day to allow them to engage in such activities. Students can be give the opportunity to make choices during activities, with physical or gestural prompts given by peers when needed.
   For example: (a) student can choose a partner; (b) select a game or book; and, (c) be the group leader.

Mar, H., Sall, N., Rowland, K., & Milian-Perrone, M. (1994). Developmental Disabilities Center, St. Luke's/Roosevelt Hospital, NY, NY. 212-523-6230

NOTES FOR EDUCATORS WORKING WITH STUDENTS WHO ARE DEAF-BLIND:
Adapting Classroom Materials & Activities

1. **Adapt Materials to be Multi-Sensory:**
Adults and peers can encourage the student who is deaf-blind to explore materials through touch, smell, and taste (when appropriate), and to make use of residual vision and/or hearing. Materials can be adapted prior to the activity by using braille, or tactile cues such as puff paint, sand paper, and other creative textures. Tactile materials offer students unique and creative ways of participating in activities.
   Examples include: (a) musical activities can be used during which children are invited to feel vibrations and initiate rhythmical movements; (b) art projects can emphasize a student's preference to paint, glue, or draw using bright colors and textural materials; and, (c) during reading, students can be paired together to listen to a story on tape with amplicifaction through earphones.

2. **Adapt Activities to Include the Student's Primary Mode of Communication:**
Depending upon which form(s) of communication the student uses to convey information (e.g., sign language, picture cues, tactile symbols, etc.), adaptations can be created which naturally incorporate the mode of communication into planned social or academic activities. [see handout: Communication and Social Interaction].
   For example: (a) a Touch Talker, Speakeasy, Whisper Wolf or other electronic system can be programmed and used during a group lesson (e.g., student indicates that it is time for a group activity to begin by pressing a switch which calls everyone together, "Let's get started"; another student participates in the pledge of allegiance by pressing the picture of a flag on his Touch Talker); (b) during recess, a student uses his augmentative device to say "Red rover, red rover, let blue come over;" and, (c) the teacher gives student a tactile symbol (e.g., a lunch tray) to indicate that it is time to go to the cafeteria with a buddy.

3. **Adaptations in the Physical Environment:**
The physical environment can encourage participation and interaction. Students can be positioned in close proximity to each other; the teacher can make sure that all students are physically part of the group [see handout: The Role of the Teacher in Facilitating Interaction].
   Examples include: (a) pushing desks together to form clusters or squares, rather than the traditional rows; (b) use mats, therapy benches, prone standers, and wheelchair trays as pieces of equipment for facilitating interaction (e.g., the student who is in a wheelchair shares her tray with two other peers).

4. **Use Peers as a Resource in Determining Appropriate Adaptations:**
Peers without disabilities are resourceful and can be encouraged to provide assistance to the student with deaf-blindness. Peers can be directed by the teacher to identify how the student can participate in certain activities.
   For example: (a) peers involve student in coloring activity by asking him to choose the color of paper for a group project; and, (b) peers create picture board of different "Simon Says" commands so that student can point to commands during game while a partner calls them out, and the two can play the role of "Simon".

Mar, H., Sall, N., Rowland, K., & Milian-Perrone, M. (1994). Developmental Disabilities Center, St. Luke's/Roosevelt Hospital, NY, NY. 212-523-6230

NOTES FOR EDUCATORS WORKING WITH STUDENTS WHO ARE DEAF-BLIND:
Grouping Strategies to Increase Interaction

1. **Peer Tutoring:**
   Older students without disabilities can offer the student who is deaf-blind guidance and assistance during activities. The amount of training necessary depends upon individual situations. Many successful peer tutoring programs work on a volunteer basis, with a special education teacher providing disability awareness information to the prospective peer tutors (e.g., on the combination of the student's vision and hearing loss, as well as why and how activities need to be adapted to increase participation). Often, peer tutors are older, and involve children in grades 5 through 7, or junior and senior high school students.
   Examples include: (a) peer tutor assists the student with an art activity; (b) peer tutor teams up with the student during a relay race; (c) reads a story to the student; (d) writes a letter with the student using the computer; and, (e) greets the student as they pass in the hallway, and introduces her to others in the school.

2. **Buddy System:**
   Regardless of the setting (inclusive, integrated, or special class) many activities can be completed in groups of two. The teacher can assign buddies, or the students can choose themselves. Buddies are usually the same chronological age as the target student with disabilities and are from the same class.
   Examples include: (a) students can be paired together during lunch, assemblies, and field trips; (b) science or art activities can be structured for students to work together as a pair; (c) students can work with buddies to complete daily schedule or classroom job (e.g., taking the attendance to the office); and, (d) recreation and leisure activities create natural opportunities for students to interact together, such as adapting and playing a board game, hanging out, and watching a basketball game or listening to music.

3. **Special Friends:**
   A special friend is someone that the student associates with during certain activities. A special friend does not have to be from the same class as the student who is deaf-blind. Because interaction is sometimes limited to once or twice weekly, teachers need to assess how much training and supervision is necessary based on individual needs and ages of the students. A special friend can be with the target student for either a few weeks or an unlimited period of time.
   Examples include: (a) special friends go to the library together to check out a book; (b) special friends go to lunch together and sit next to each other; and, (c) special friends go to science class together and help each other with a project.

4. **Small Groups:**
   When bringing together students for instruction (in inclusive, integrated, or special class), an alternative to teaching the whole group at once is to split the class into small groups. There are a variety of ways children can be placed into groups.
   These include: (a) students choose numbers or count off into groups; (b) students can already be sitting near one another; (c) students all wearing the same color form a group (e.g., the blue group, the red group); or, (d) teachers place students in groups of complimentary abilities (e.g., low/high achievers, talkers/non-talkers).
   Students meet and greet each other at the beginning of the activity. During the activity, adults rotate from group to group to monitor progress and facilitate interaction.

Mar, H., Sall, N., Rowland, K., & Millan-Perrone, M. (1994) Developmental Disabilities Center, St. Luke's/Roosevelt Hospital, NY, NY. 212-523-6230

NOTES FOR EDUCATORS WORKING WITH STUDENTS WHO ARE DEAF-BLIND:
Cooperative Learning Strategies

Cooperative learning strategies can be used to increase student interaction and promote learning. Cooperative learning involves pairing students together in small groups, sharing materials, working toward the same goal, and working together -- or *"cooperatively."*

The five basic elements essential to cooperative learning activities are as follows:

1. **Positive Interdependence**: Students are "interdependent" upon each other--they can only succeed in a given task by working together. This is established through:

   A. **Goal Interdependence** -- there is only one goal for the group and everyone works toward it versus competing against each other (such as one completed assignment from the whole group).

   B. **Resource Interdependence** -- materials ("resources") are divided up among group members and each person must share with the other to complete the assignment (e.g., one pencil, one paper, one pair of scissors, one glue).

   C. **Role Interdependence** -- group members are each assigned specific roles (e.g., the "recorder" who writes things down; the "checker" who checks to make sure everyone understands; the "timer" who makes sure the group is working within the time limit; the "runner" who gets the needed materials from the front of the room and returns them at the end of the lesson).

   D. **Reward Interdependence** -- once the assignment is complete, the group (not just one or two members) receives a reward (rewards can be anything motivating or special, such as 10 minutes of recess, extra snack, stickers, or bonus points leading to a class party).

2. **Face-to-Face Interaction**: Students must sit in close proximity to each other. This facilitates sharing materials as well as promoting verbal and nonverbal interactions. (If students are separated by desk-space, their interactions will decrease, their voices will be louder, and they won't be able to share materials as easily.)

3. **Interpersonal and Small-Group Social Skills**: Students need to be taught skills that foster collaboration. Such skills include: encouraging other group members, praising each other, asking for help, offering help, sharing ideas, and using quiet voices.

4. **Individual Accountability**: Students must show they are learning the material at their own level.

5. **Group Processing**: Students need to discuss how they are doing in their groups and what they can improve upon. This allows students an opportunity to focus on "group maintenance" (which includes giving each other constructive feedback and discussing their collaborative skills).

[turn over for activity] →

Mar, H., Sall, N., Rowland, K., & Milan-Perrone, M. (1994). Developmental Disabilities Center, St. Luke's Roosevelt Hospital, NY, NY. 212-523-6293

Examples of Cooperative Games and Activities

How to tell if games or activities promote cooperative interaction:

- Are students actually interacting or are they just taking turns or working in parallel?
- Do the "rules" create and promote interaction?
- Are students allowed to talk to each other and physically help each other?
- Do all students participate and interact?
- Do all students learn?

Example of an activity:

• Cooperative Concentration: Each group has three or four members. The groups of children play together, taking turns, trying to make matches with their cards (cards can be typical Concentration Game cards, pictures, colors, spelling words and definitions, countries and states, etc.). Cards can be adapted for the student with dual sensory impairments or severe disabilities by adding brailleor tactile cues, or enlarging the print.

The group members sit in a circle, hiding their cards. Player 1 walks around the circle and calls upon two other players to each reveal a card. The group agrees that the cards are (or are not) a match and if so, the match is put in the center of the circle. One member writes down on a piece of paper the answers. When all cards are in the center of the circle, the game is won. Adding a "beat the clock" component might increase excitment (e.g., 10 minutes to make as many matches as possible).

Social skills to emphasize include: the need to collaborate, share "memory" of who has which cards, help each other make matches, call each other by name, etc. *The roles can include:* recorder (the member who writes down the answers); timer (who makes sure everyone is working within 10 minute limit); dealer (who tells members to tum over cards); and the checker (who makes sure everyone is participating and understanding the game).

For additional information on cooperative learning strategies, refer to:

- Brandt, R. (1987). On cooperation in schools: A conversation with David and Roger Johnson. Educational Leadership, pp. 14-19.
- Johnson, D., Johnson, R., (1986). Mainstreaming and cooperative learning strategies. Exceptional Children, 52(6), pp. 553-561.
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- Putnam, J.W. (1993). Cooperative learning and strategies for inclusion: Celebrating diversity in the classroom. Baltimore, MD: Paul Brookes Publishing.
- Sapon-Shevin, M. (1978). Cooperative instructional games: Alternatives to the spelling bee. The Elementary School Journal, 79(2), p. 81-87.

Mar, H., Sall, N., Rowland, K., & Milan-Perrone, M. (1994). Developmental Disabilities Center, St. Luke's Roosevelt Hospital, NY, NY. 212-523-6030

Bibliography on Friendship, Social Interaction, and Children with Deaf-Blindness

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